

ITEMS OF INTEREST.

VOL. XVII.

DECEMBER, 1895.

No. 12.

ORIGINAL COMMUNICATIONS.

BEAUTY AND MORALITY.

Almost every great movement of the world, or system of thought that has taken hold of the popular mind, has had some valuable principle to inculcate, and with it some pronounced defect, which together have gone on for a long time gaining ground. Thus Puritanism, impressed with the evils of the times, setting its face resolutely against every form of vice and sensuality, luxury and self-indulgence, and implanting habits of stern self-discipline, made the very natural mistake of confounding all that was beautiful and lovely and pleasant to look on, and the delight which flowed from these sources, with the vicious and criminal practices and pleasures which it was its mission to destroy. By a crude kind of reasoning, as much that was wrong and injurious was found to be pleasurable, so all that was pleasurable was supposed to be wrong, and, if not already condemned, was at least open to suspicion.

Many long years have as yet only partially corrected this error. By slow degrees and difficult thought we have come to discriminate between the natural enjoyments which coincide with purity of heart and life, and those so-called pleasures which tend to drag down the health of the body, the vigor of the mind and the strength of moral principle. Still, so far, our attitude is mainly one of toleration in this matter. We have conceded that beauty can exist and rejoice the heart of man without defiling it, but that it can be a positive purifying agency, an actual source of morality—that the taste for it should be cultivated as carefully and intelligently as possible, not only for its pure enjoyment, but still more for its power to improve the mind and exalt the character—these are ideas at present only in the air; they have not as yet so permeated and influenced public sentiment as to form any strong or abiding motive to action.

Yet the truth which these ideas embody, when fully realized, will produce rich results in this very direction. Nature herself is beautiful—that is, she so appeals to the sense of beauty within us as to produce sympathetic and pleasurable feelings. So art of

every kind, truly representing nature in her many forms, or combining certain of her elements as imaginary ideals, has the same power of exciting a pleasurable response from within. Now all these things are not merely innocent, as is sometimes superciliously admitted—they are intrinsically purifying, strengthening and elevating influences in our lives that we cannot ignore with impunity. It is not enough that we do not antagonize them, that we tacitly admit them when they chance to approach us; we cannot be indifferent to them, or neglect their proper training and culture without weakening and impoverishing our natures. It has been asked somewhat triumphantly by those who oppose this view “whether the sense of beauty ever furthered the performance of a single act of duty.” Even supposing for the moment that this question should not be answered affirmatively, it is certain that conduct, however important, is not the whole of life. Acts of duty are essential and binding on every conscience, and the virtuous character that springs to perform them is beyond price, yet there are other realms of our nature that lie apart from these—at least, so far as direct and immediate results go, and to scorn or neglect them must dwarf and shrivel our manhood and womanhood.

But the truth is, that every part of human nature does exert an influence on the character and conduct, and the sense of beauty is certainly no exception. It does, through a chain of motives, further the performance of dutiful acts. Increasing intelligence is ever seeking for remote, rather than immediate causes of action, and, by influencing them, it hopes to set in motion a train of forces and incentives that will ultimately induce the conduct, which is desirable. In this way, if not more directly, beauty, ever appealing to our responsive appreciation, is working actively and distinctly in the interests of morality. It is certainly a safeguard against the gross forms of pleasure and the kind of companionship which leads to them. The young person who has been trained and accustomed to detect and enjoy the real beauties of nature and of art, whose taste has been educated to appreciate the best in both, will not be satisfied with or take pleasure in the worst. The beauty of the external world is closely allied to the beauty of character and of life, and the upward steps that lead from one to another are naturally and easily trodden. A modern writer on this subject has said: “I believe that the love of true beauty is an ally of conscience, working for, and not against, its claims. I should put the esthetic taste high among the active moral powers of man, and inspiration and motive, for it gives refinement to all our workings; it gives relief from drudgery to all our toil. * * * In the hazardous interim between boyhood and manhood we are

more indebted to good taste than good principles for our escape from bad company. * * * As I read the past I find frequent occasion to be thankful for influences which quickened and pruned the sense of beauty and the desire for it in all its true forms. I believe that in most people tastes grow earlier than principles, and, as they are well or ill formed, intimacies are made which, more than anything else, determine the character of our after ves."

DENTAL EDUCATION.

Read before the Virginia State Dental Association.

*Charles L. Steel, M.D., D.D.S., Prof. of Orthodontia and Prosthesis,
University College of Medicine, Richmond, Va.*

I remember a story of an old lady, who, in her ninetieth year, found herself on her death-bed. As her physician was standing by, she said: "Doctor, I have lived to a good old age; have I not?" "Yes, madam, you have indeed." "Well, I guess you take a good deal of the credit to yourself; but if you look on that shelf yonder, you will find all the bottles of medicine you have ever prescribed for me untouched. Now, what do you think?" "I think, madam, had you taken my medicine you would have been a centenarian."

So, I say, about our pioneers: If they accomplished so much with their limited facilities, how much more could they have done had they possessed the additional advantages of college training? It is almost unnecessary for me to say anything as to the advantage of a liberal preliminary education, but I shall say just a few words. From Latin and Greek come nearly all our technical terms, which are so significant that often the very name describes the object. In anatomy the mere name of a muscle frequently tells its origin and insertion, and sometimes its character or use; whereas, the poor fellow just from the plow-handle, as so many used to come, must needs spend an hour or more to memorize a mere name (which conveys nothing to his mind), and learn in addition the function, position, etc., of a muscle. The modern languages are possibly less important, yet they are of advantage. Chemistry—a future generation only will be able to realize what we have missed by our negligence of that study. In microscopy—look what Dr. Miller has done. I have often longed for more knowledge of physics and of mathematics. The dentist must often be expert in these sciences.

Let us rapidly review the changes in the system of dental education. But a short time ago nearly all the colleges published in their catalogues the requirements for graduation as follows: "A student must have attended two years in this institution; but the following will be considered as equivalent to one year's course, viz.: A satisfactory preliminary examination; five years' previous practice; one year in another reputable dental or medical college." What did "five years' practice" amount to? Generally, nothing more than some poor youth had for that length of time been boiling rubber, polishing plates, occasionally malleting, and oftener sweeping the office for some dentist. What was "a satisfactory preliminary examination?" I speak from experience, when I say that it was a mere form, almost a farce; its only object and intent being to slip a man into the graduating class, who, because he had only had four years and eleven months, or less practice, could not come under the five-year rule.

Let us glance at our colleges, and see where they are now. To-day the first thing every reputable college says to the student, is, "Show me by some certificate that you have had a good general education, or prove it by permitting us to examine you." And to-day almost every medical college of note has added a dental department, and these departments are generally more liberally patronized than independent schools. Now, what has contributed to these changes in our system? First, though of least influence, the demand of the public that the men with whom they are thrown in such intimate association, and to whom they surrender the care of their teeth, should be men of culture in every respect; secondly, the demand of the profession that the mistakes and omissions which they see were made in their education shall be corrected; thirdly, the most praiseworthy efforts of the faculties of our schools to improve their curriculum; fourthly, the National Association of Dental Faculties, which, by a banding together of the good colleges, and agreeing on certain fixed rules, have done away with the temptation to colleges to attract students by the laxity of requirements; fifthly, and most powerfully, the dental laws in almost every State, whereby every applicant to practice dentistry must first stand an examination, proving his ability to a board of competent dentists. The Association of Faculties is setting a high standard; the State Boards of Examiners are compelling the faculties to maintain these standards.

So, gentlemen, if you wish to feel happy and proud of your profession, compare the educational requirements of a decade ago with those of to-day. No longer is it sufficient to simply attend the same course of lectures for two sessions of five months each.

We have a graded course, which necessarily covers a much wider field; two sessions having been recognized as totally inadequate. Three is now the rule, with a decided tendency to make it four. Five months' sessions are a thing of the past—six, seven, eight, and even nine months' sessions are the order of the day.

I have referred to some excellent work done by the National Association of Dental Faculties. In their union there is power—power for good, as has been proven; but power for evil, as may be possible. So long as the faculties continue to maintain a high standard, all honor to them. If ever they use their power to protect their business interests by attempting to limit the number of colleges, they are striking a fatal blow at the root of dental advancement, and inviting, nay, almost compelling their own eventual destruction. I will not stint my praise of what the State Examining Boards have done; but I have been sorry to see in some States an evident tendency to misinterpret their duties. Some of them seem to think they have been appointed to protect the business interests of the profession, by limiting the number of practitioners, thus increasing the volume of business for a chosen few; whereas, they protect the interests of the public, and elevate the standard of the profession generally by seeing that only competent men, regardless of number, should enter our ranks.

I believe there should be an interchange of courtesies between these two associations, whereby a man who is practicing in good standing in one State may move into another, and a certificate from the board of his State be accepted in lieu of an examination.

But the most serious menace of all, and one that must be carefully guarded against, is this: The advancement in requirements to which I have called attention. These have been chiefly those of mental culture and theoretical branches. Now, with this "book-learning" we are filling up the time of our students so completely that they are tempted to neglect the practical work of the infirmary and laboratory. This must not be allowed. We cannot afford to have men turned loose into the profession with big heads, but clumsy, unskilful fingers. There must be manual dexterity; and this they can only acquire by faithful and persistent practice at the chair and the bench.

But we have much to be thankful for. Let us be grateful and proud, and do everything we can, individually and collectively, personally and officially, to advance the good work. And it certainly is advancing rapidly. Let us individually feel our responsibility.

IMAGINATION—CURIOUS INCIDENTS.

"The lunatic, lover, and the poet
Are of imagination all compact."

—*Shakespeare.*

It is the general belief that ordinary, matter-of-fact people are unimaginative. Necromancers of all ages have taken advantage of this mistake. Many years ago, in a primary school reader, I saw an account of a Vermont woodchooper who cut his foot while in the woods, and with difficulty throwing himself on the ox-sled he started the team for home, and then fainted from the loss of blood. On reaching his house he was taken off the sled and restored to consciousness, when he found he had not been cut at all. I well remember the vigorous protest I made against such evident falsehood being printed in a school-book. The only response to my frequent demurs was my father's quiet rejoinder: "I have seen men as confident as you are find themselves mistaken."

Many years after, when I was using a sharp ax, my foot caught a misstroke which cut through my boot just forward of the ankle, showing a flesh wound an inch and a half long. The day being cold, the accumulation of warm blood in my boot was the more perceptible. While walking to the house, a hundred yards distant, the blood filled the boot so that all the forepart of the foot was covered. When the boot was taken off the foot was found to have a slight mark but no cut. My instant expression was: "I take back all I ever said about that old woodchooper story, for I have no doubt that he fainted from the loss of blood."

My father's smile, which had been held in reserve fifteen years, was as quiet as his remark had been on my boyish vehemence. No experience of fact could be more real than mine was—of imagination. Yet there was no scare and no pain. Nothing was apprehended beyond the small trouble of binding up a flesh wound that would cause very little inconvenience. It was my knowledge of the keen edge of the ax, the force of the stroke, and the red sock showing through the gash in the leather that proved to my mind that a deep cut had been made.

Another case. Back in the sixties I used to go fishing of summer nights in the Dionoudehowa, the most beautiful of the Hudson's many tributaries. One night my two companions, for pure mischief, kept the boat at anchor beyond all reason, against my protests and petitions. The clock pointed to three, past, when we turned in. I was oppressed with a feeling of drowsiness all the next forenoon; but obtained instant relief by a remark my

sister made at the dinner table. She said the minute hand of the clock had caught the hour hand and carried it forward nearly four hours during the night.

Not only does the mind sometimes produce an experience without adequate cause, but also puts away suffering that comes from adequate cause, by a strong diversion, as in the following incident:

In November, 1879, with the Rev. R. D. Callihan and two other companions, I was driving a spirited team up the Big Sandy Valley, in Kentucky. On the morning we left Louisa, one of our company had toothache and neuralgia, which were aggravated by the exposure, so that one side of the face became red and swollen to such a degree that it presented a striking appearance, and up to half an hour before we reached Paintsville the sufferings found numerous and divers expressions. But it happened about that time that we came suddenly to a narrow place at a turn in the road while the horses were running. It was too late to stop, and the left wheels cut off the bank till the hind axle touched the ground. There were sixty feet of precipitous bank below us. The scare was sudden and terrific, but was over in an instant. Mr. Callihan was sitting on the side that went down, and, being old and heavy, was in the greater danger. During the rest of the drive our friend of the swollen face would frequently turn round, and with great earnestness say, "Brother Callihan, you were scared. You will not be whiter when you are in your coffin." The first man we met in Paintsville was Dr. Atkinson, who came to the wagon to shake hands with us. Taking the doctor's hand, I said, "Doctor, here is a patient for you," and turning to my seatmate saw that he had been cured perfectly by the fright. The swelling had all disappeared from his face. This remarkable cure had escaped the observation of all three of us, and the patient himself did not know that he had been cured till his attention was directed to the fact.

Rev. J. D. Walsh.

A STAR-STORM.

The "ides of November"—literary the 13th—constitute an important date in the astronomical calendar, for they signalize the earth's transit of the intersection of its orbit with that of a famous meteor-group, which constantly sacrifices incredible numbers of its constituency to the "attraction" of its more important neighbor.

Few persons are oblivious to the fascinations of a meteoric display, when brilliant lights of various colors flash athwart the heavens, leaving lingering trails of dim luminosity—light echoes, as it were—to indicate the paths of celestial glory which led but to a terrestrial grave.

The phenomenon of "shooting stars" is doubtless prehistoric, but, till within three-quarters of a century, was classed with atmospheric curiosities, like the "jack-o'-lantern." And the misnomer of "shooting stars" has probably misled tens of thousands, who do not conceive that a single "runaway" star in such close proximity to the earth would already have accomplished its irretrievable ruin.

INTERPLANETARY POPULATION.

The incessant rain of meteors makes it obvious that multitudinous myriads of bodies inhabit interplanetary space. It is estimated that millions of them enter the earth's atmosphere daily, and at favorable junctures the superabundance of such visitors is oppressive to arithmetical calculation. It has been clearly ascertained that many distinct groups of these bodies, or "swarms," as they have been aptly termed, are pursuing regular elliptic orbits about the sun.

The orbits of the November Leonids have their perihelia on the earth's orbit, and their aphelia just beyond that of Uranus. The gravitational dictum of Newton is beautifully illustrated in the influence of the earth on the meteoric mass, for there is no moment when luckless meteors are not drawn away from their allegiance to the sun, the great exhibitions, however, only occurring in those years when the main body happens to be near the point of intersection.

The average "shooting star" is infinitesimal in size, and its weight has been estimated as a grain. Some regard it as a mere cloudlet of dust and gas, while others consider it to be identical with the meteorite which sometimes makes its way through the atmosphere to our clear vision and touch.

Its own flaming atmosphere, together with irradiation, causes the latter to seem much larger than it really is, the light being simply the combustion of the meteor in its struggle with our air belt. The average velocity of entrance, according to Young, is 26 miles per second. The resulting frictional temperature usually completely consumes the meteor at a distance of 50 miles above the earth's surface.

PHYSIOGNOMY OF METEORS.

But there are notable instances of meteors which have been seen to fall to the earth, and many other bodies bearing precisely

the same markings have been found. These are termed "aerolites." Occasionally one falls in a single mass, but usually the strange little world is in fragments. Aerolites are mostly stone, but a few are of very pure iron, with a nickel alloy. Some masses of stone contain more or less iron.

One would say in examining such a mass that it had been well "thumbed," for the surface is full of hollows suggestive of thumb-marks made when plastic. The exterior coating is black and glossy. It is probable that the hollows are due to the burning of substances quite susceptible to heat while the atmospheric gauntlet was being run.

The largest meteor actually seen to fall weighed about 500 pounds, but there have been found masses of undoubted meteoric origin weighing several tons. It will comfort apprehensive readers to learn that only once during a star shower was a piece of meteoric iron known to reach the earth's surface.

A FAMOUS FIND.

In 1891, the late Dr. Foote, of this city, discovered in Arizona a meteoric mass (in several fragments) weighing, perhaps, 1,800 pounds. It was of the nickel-iron variety, but, on attempting to polish a portion of it, the tools were ruined by a protruding diamond! Had it been a commercial diamond, instead of a mere "black diamond," perhaps popular interest in meteors would have been stimulated. (It was but recently that a lawsuit determined the possession of an aerolite.)

In addition to carbon many of the familiar elements have been found, but no new ones. In one case the "heart" of the meteor, chilled with the frightful cold of space, was so far unaffected by the resistance of the air belt that, when found in moist earth soon after its contact, it was discovered to be coated with ice.

It requires an active astronomer to catch a spectroscopic glimpse of the light of even the brightest of meteors, but their spectra have been partially examined and some lines have been identified.

THE MYSTERY OF THE METEORS.

The field of speculation regarding the origin of meteors is wide. Some have maintained that either terrestrial or lunar volcanoes are responsible for the parentage of these tiny bodies, but eternal quiescence seems to have settled on the lunar catapults, and no terrestrial volcano is now able to cope with gravitation. But it is claimed that the ejection occurred in the dim ages, and during the period of vigor of both earth and moon.

Other philosophers attribute them to solar action, asserting

that the "occluded," or absorbed, gases found in them, and released by heat, proves conclusively that they have been "charged" while a part of the sun or the stars.

THE "RADIANT POINT."

Star showers are associated with certain localities of the sky. The point from which the meteoric streams seem to proceed is called the "radiant point." Thus, the early November shower is termed the "Leonids," the later one the "Andromedes," and the August meteors are termed "Perseids." Of course, it will be understood that these supremely distant constellations are only the starry background for the exhibition.

The morning hours are the best for observation, though the waning moon may discount the plentifulness of the display of Leonids, and the waxing moon will more seriously interfere with the later Andromedes.

GREAT STAR STORMS.

While the major showers of the Andromedes occur about every thirteen years, the great star storms of the Leonids happen only once in a generation—every thirty-three years. The older Perseids are so evenly distributed in their orbit that they appear plentifully every year, but are most abundant during the latter part of July and the early part of August.

Probably the most sensational event connected with astronomy was the remarkable shower of Leonids on November 12th, 1833. The number estimated as falling in Boston in a few hours was 240,000. They "fell like snowflakes," and in some sections inspired the beholders with terror, for it was believed that "the end of the world" had come. The magnificent spectacle was repeated in 1866 (though not under such favorable auspices), and the close of this century will be crowned with similar coruscations.

COMETARY RELATIONSHIP.

The most significant development of meteoric research is the identification of the orbits of the three meteor groups mentioned with those of three comets. Some eminent students of the heavens are perfectly satisfied that in these cases the meteors are "disintegrated comets." The coincidences are singularly striking, but must not be dilated on in this chapter. But the writer occasionally playfully tells his friends, when he shows them a meteorite he prizes, that it is "a piece of a comet."

Let the green and blue "Leonids" be sought for from November 9th to 17th, and the red "Andromedes" for a few nights before and after November 23d.

A. W. Q.

REPORT OF TREASURER OF WORLD'S COLUMBIAN
DENTAL CONGRESS,

IN FULL FROM MARCH 23d, 1891, TO JULY 23d, 1895.

RECEIPTS.

American Dental Asso.	\$1,000 00	New South Wales	\$30 00
Illinois State Dental Soc.	321 00	New York	1,515 30
Iowa State Dental Soc.	100 00	North Carolina	210 25
Southern Dental Asso.	200 00	North Dakota	40 00
Washington City Dental Society	50 00	Ohio	620 00
Alabama	130 00	Oregon	20 00
Arizona	20 00	Paraguay	20 00
Arkansas	20 00	Pennsylvania	840 30
Austria	10 00	Rhode Island	25 00
California	548 00	Russia	30 00
Canada	20 00	Scotland	20 15
Chili	10 00	South America	10 00
China	30 00	South Carolina	130 00
Colorado	40 00	South Dakota	10 00
Connecticut	220 00	Spain	20 00
Cuba	10 00	Switzerland	20 00
Delaware	50 00	Tennessee	290 00
District of Columbia	190 00	Texas	170 00
England	50 00	Vermont	120 00
Florida	20 00	Virginia	100 00
France	100 00	Washington	80 00
Georgia	125 00	West Virginia	10 00
Germany	10 00	Wisconsin	150 00
Hawaii Islands	40 00	American College of Den- tal Surgery	10 00
Illinois	3,802 00	Baltimore College	10 00
Indiana	355 00	Chicago College	10 00
Iowa	460 00	Columbia University	10 00
Italy	10 00	Louisville Dental College	20 00
Kansas	130 00	New York "	10 00
Kentucky	120 00	Ohio Dental College	10 00
Louisiana	60 00	University of Buffalo	10 00
Maine	190 00	" California	10 00
Maryland	250 00	" Minnesota	10 00
Massachusetts	395 35	" Western Re- serve	10 00
Mexico	20 00	Wilmington Den. M'f'g Co.	40 00
Michigan	245 00	Philadelphia College	10 00
Minnesota	405 00		
Miscellaneous	11 70		
Mississippi	40 00		
Missouri	715 00		
Montana	10 00		
Nebraska	180 00		
New Hampshire	10 00		
New Jersey	477 50		

\$15,851 55

Amount received from Co-
lumbia National Bank. 286 06Donation of Executive
Committee 3,600 00

\$19,737 61

DISBURSEMENTS.

General Finance Committee, L. D. Shepard.....	\$926 25
Executive Committee, Secretary's expenses.....	3,018 84
Treasurer's expenses.....	583 59
" bond.....	100 00
Secretary General's expenses.....	1,299 48
State Conference Committee, J. Taft.....	218 87
Registration Committee, Fred. A. Levy (per G. C. Brown).....	34 00
Invitation Committee, W. C. Barrett.....	16 95
Clinics Committee, C. F. W. Bodecker and S. H. Guilford.....	80 35
Biology Committee, R. R. Andrews.....	18 15
Nomenclature Committee, G. V. Black.....	31 00
History Committee, J. Taft.....	1,523 57
Membership Committee, E. Noyes.....	13 50
Publications of Transactions Committee, A. W. Harlan.....	4,529 95
Donations by Executive Committee, traveling expenses.....	3,600 00
Woman's Department.....	307 00
Dental Manufacturing Co., S. S. White.....	121 80
Medals.....	720 00
Buttons and badges.....	257 63
Club house.....	1,530 00
Banquet (deficit).....	274 60
Refunded memberships.....	50 00
Exchange.....	6 36
	<hr/>
	\$19,261 89
Paid by Columbia National Bank.....	286 06
Unpaid by " ".....	127 09
	<hr/>
	\$19,675 04
Balance, July 23d, 1895, in Merchants' Loan and Trust Co. Bank..	62 57
	<hr/>
	\$19,737 61

John S. Marshall, Treasurer.

The meeting of the American Dental Society of Europe, held at Boulogne-Sur-Mer, France, under the Presidency of Dr. Chas. W. Jenkins, of Zürich, was one of the most successful and interesting meetings for several years.

The next session will be held in Dresden, Germany, in 1896, immediately preceding the meeting of the International Medical Congress in Moscow, thus allowing of attendance on the two sessions without loss of time.

The officers-elect for the ensuing year are as follows:

John H. Spaulding, of Paris, President; Chas. J. Monk, of Wiesbaden, Vice President; Wm. A. Spring, of Dresden, Secretary; Samuel S. Macfarlane, of Frankfort, Treasurer.

ATTENDANCE AT THE LAST TERM OF OUR DENTAL SCHOOLS.

	Matriculates. Graduates.	
Vanderbilt University.....	136	38
Meharry College.....	10	2
Pennsylvania Dental College	309	83
Philadelphia Dental College	367	115
University of Iowa.....	150	25
Columbia Dental College.....	48	10
Western Dental College.....	163	30
Ohio Dental College.....	189	50
Cincinnati Dental College.....	26	5
Royal College of Ontario	135	40
University of Maryland.....	180	45
Western Reserve University.....	53	17
Cleveland University, Dental Department.....	27	5
Kansas City Dental College.....	153	39
Missouri Dental College.....	86	24
Baltimore College of Dental Surgery.....	166	45
University of Tennessee.....	58	15
New York College of Dentistry.....	361	79
Ohio Medical University, Dental Department	54	8
Chicago College of Dental Surgery.....	416	107
Birmingham Dental College.....	24	1
University of Buffalo, Dental Department.....	160	30
National University, Dental Department.....	36	9
Columbian University, Dental Department.....	64	15
Indiana Dental College.....	126	27
University of Pennsylvania.....	278	70
University of California.....	170	38
Northwestern Dental College.....	43	5
Southern College, Dental Department.....	46	..
Baltimore Dental College.....	166	46
Atlanta Dental College.....	79	..
Boston Dental College.....	172	42
Detroit College, Dental Department.....	81	18
University of Minnesota.....	73	12
American Dental College.....	314	66
Western Dental College.....	163	30
University of Denver.....	..	2
University of Michigan.....	187	47
Harvard Dental School.....	80	17

BAD LUCK.—I never knew an early-rising, hard-working, prudent man, careful of his earnings, and strictly honest, who complained of bad luck. A good character, good habits, and iron industry are impregnable to the assaults of all the ill-luck that fools ever dreamed of.

Addison.

In a recent article on the use of oxiphosphate for lining cavities, or as a foundation for gold or alloy fillings, I neglected reference to one mode of procedure: Mix the cement so as to bring it to its most sticky condition; place it in the cavity quickly, and sink in it small cylinders of gold foil. Smooth the surface before the cement begins to set. When sufficiently hardened to hold the cylinders firmly, smooth cement again at margins with strips or disks. Starting a filling on these retaining points is much easier than to start from pits drilled in the cement. There are times when a gold filling becomes loose before any decay has changed the shape of the margins of the cavity. If the inward portion of such filling has a rough surface, or can be slightly roughened, it may be replaced as good or better than new. If cavity is saucer-shaped, make a few retaining points. Mix the cement very thin and partly fill the cavity with it; then press the plug home accurately and protect from moisture till the cement is fully hardened. The permanence of such work has been a great surprise to me. Recently, I was quite exhausted in making a large gold filling where the retaining points were only partially satisfactory. Just as it was finished, an accidental stroke in the wrong direction dislodged it. There was no time to make a new filling. The dam had not been removed. I pressed the loose plug a little to one side, flowed very thin cement behind it, and wedged the filling back to its place. It remains firm. *W. E. Driscoll, Manatee, Fla.*

[Would it not have been better to have removed the plug, and, after inserting soft cement, pressed the plug again into position?—
ED. ITEMS.]

To brighten and make nearly as nice as new, rubber-dam clamps that have lost the plating and become rusty and discolored, dip them in a bath of sulfuric acid, then remove, and with brush-wheel and pumice make bright. Wash clean and dip in a strong solution of cyanid of potassium, and they are ready for the plating solution. This is made as follows: Put in a six-ounce bottle about 10 cents' worth of nitrate of silver and four ounces of soft water. When thoroughly dissolved, add strong solution of common salt till the curdled appearance given by the salt ceases to form. When settled, use the clear portion for a battery. To make a simple and inexpensive battery, put the liquid in a glass tumbler; having two narrow strips of zinc, one to hook on to the edge of the tumbler, the other to hold the clamp or article to be plated in solution. On the upper end or hook of the zinc strip to

hook on the side of the tumbler, soft-solder a piece of copper wire long enough to reach across tumbler and down half-way the opposite side; and on the other end of the wire solder a ten-cent piece of silver for an anode. Put sufficient plating solution in the tumbler to cover the article to be plated, leaving them in for fifteen or twenty minutes, or till nicely covered. Now remove, and with brush-wheel brighten it. Repeat as many times as you wish; each time gives an extra plating. Other uses will be suggested; for nothing is more attractive in a dental office than bright, clean instruments.

W. J. Miller, Chicago.

The following rules were adopted by the last session of the National Association of Dental Faculties:

Resolved, That in view of the recommendation of the Executive Committee that this Association now in session shall require that all colleges, members of this Association, shall extend the term of the session of 1896-97, and of succeeding sessions, to not less than six months each.

Beginning with the session of 1895-96, no college shall be permitted to retain membership in this Association if it is conducted or managed, in whole or in part, by any person or persons who do not practice dentistry in accordance with well recognized and generally accepted forms, generally known as dental ethics, or if they are owned in whole or in part by men or women who are engaged in disreputable dental practice, or if any college have upon its list of trustees, the faculty, demonstrators, or in any other capacity, any one who does not practice dentistry in accordance with the principles above mentioned. This shall refer to dentists only.

Beginning with the session of 1896-97 the examinations conducted by the colleges of this Association shall be in the English language only.

THE TEETH OF OUR SCHOOL CHILDREN.—J. C. McCoy, M.D., in a paper on this subject read before the Dental and Oral Surgery Section of the American Medical Association, advocates training the children in the public schools the proper care of the teeth. Each State Dental Association should appoint a suitable committee to arrange a manual on the subject, then induce the Educational Board of the State to adopt such a manual as a text-book to be used by teachers and taught in our Normal Schools, requiring teachers to pass an examination on the contents of the manual and teach the subject in the schools. Out of a school of 700 pupils where Dr. McCoy distributed printed slips, "Do you cleanse your teeth with a brush every day?" "Do you cleanse your teeth with a brush twice a day?" Fifty cleansed their teeth twice a day, 275 used the brush sometimes, while 175 did not own a brush.

Dental Science.

CURRENT THOUGHTS.

THE DESTRUCTION OF CHILDREN'S TEETH.

Dr. J. G. Heuisler, of Baltimore, Md.

The author called attention to the widespread destruction and loss of children's teeth, due to neglect and ignorance as to the proper time and means for caring for the teeth. He said that the ignorance of parents and guardians with respect to this important matter was almost general. He had found but few in his experience who realized the importance of the first permanent molar, the common belief being that it is a deciduous tooth. This ignorance is not confined to a few of the poor, but extends to others who have time and means at their command, but who never think of their children's teeth till they are crying with the pain of toothache; or perhaps they may do all they consider necessary by insisting on the use of the tooth-brush and dentifrices, but never consult a dentist as long as the child does not complain.

Another potent factor in the loss of children's teeth is the use of improper foods, especially the use of bread and pastry made from double-bolted flour, whereby an insufficient amount of phosphates and bone-making material is furnished to the child. He suggests to his patients the use of corn bread and bran bread, and also prescribes syrup of hypophosphites as an effort to check and restore the loss of the lime-salts of the teeth.

Physicians should realize more fully the importance of examining the teeth of children. They usually have an earlier opportunity to make such examinations than the family dentist. No physician who has the welfare of his patients at heart can afford to neglect a consideration of their teeth. It is not expected that a physician should perform dental operations, but he can at least examine the teeth of children, and where he recognizes the need for treatment insist on the parents taking them to some careful dentist.

The obligation on the physician's part for the conscientious supervisory care of the teeth is as great as that for the care of the nose, eye, or ear. We should, as dentists, recognize it as our duty to in the first place educate our patients. This may be accomplished by the publication of a small tract or leaflet, written in plain, simple language, so that any one can understand it, describing the order of eruption of the permanent teeth, proper means of caring for them, and warning parents of the necessity of preserving the temporary teeth till the permanent teeth appear.

Cosmos.

GREEN-STAIN.

Dr. C. T. Gramm, Chicago.

No special class of patients or of teeth is exempt from green-stain, but it is most frequently found on pitted, grooved, or markedly striated enamel-walls of incisors and cuspids and in unclean mouths.

As a rule, I have found erosion underneath green-stain associated with (1) exanthematous impress on the teeth; (2) with a measure of systemic degeneracy, congenital or post-natal, affecting the nutrition of the tooth itself and the fluids of the oral cavity.

Since, however, these are precisely the circumstances under which erosion without green-stain is found, it cannot be held that green-stain *per se* is responsible for the erosion in such cases.

Among eighty-five adult Russian Jews, in many of whom degeneration was marked, I found fifty-seven cases of green-stain. Of these, three cases showed erosion associated with the discoloration. There were eleven of typical erosion without any stain. In fifty-four of these green-stain the discoloration was readily removed with H_2O_2 , and the enamel-wall, after probably years of discoloration, was found polished and translucent.

Out of 1200 stained permanent largely carious teeth which I found in the various "dental parlors" of this city, less than three per cent showed erosion of the enamel; this, too, in face of the fact that the patrons of those institutions are not especially given to the care of their mouths, and many poorly nourished.

At Dr. Rosa Engelman's large children's clinic at the United Hebrew Charities Dispensary, which I had the privilege of attending twice weekly, and at which I made notes of over eighty cases of green-stain, the percentage of decalcification was unexpectedly small. I found but six suggesting erosion, and these were among children of rickety, tuberculous, and neurotic diathesis. This in face of the observation of Professor Truman: "In young persons it has invariably been shown to be accompanied by decalcification."

RECURRENCE OF GREEN-STAIN.

Dr. Ottolengui has sought to find a point in favor of his hypothesis, namely, that fermentation of the residuum of milk caused the stain, by calling attention to the non-recurrence of green-stain after having once polished it away and reduced the imbibition of milk.

I doubt, in the first place, whether the partaking of any one kind of food has aught to do with the product under discussion. My own clinical records, at least, do not suggest it.

The cause of non-recurrence is probably in the polishing away of the skin of the teeth, to which alone green-stain takes kindly.

In October, 1894, I, in several instances, polished the middle one of three stained oral teeth, leaving the other two or more untouched. Having recently seen them, I found no recurrence of the stain, proving that either the general conditions under which green-stain was originally produced had changed, or that the tooth had been rendered uninviting by removing the cuticle.

GREEN-STAIN UNDER THE MICROSCOPE.

Under microscopic examination of green-stain, the pits, depressions, and grooves affording the greatest shelter are usually the first and last to harbor green-stain. The granular elements associated with the stain seem, at times, in its incipency, to be colonized on individual enamel-prisms, leaving a clear peripheral margin. Again, too, I have seen them arrayed at the periphery, leaving the central field of the prism clear, or, at most, tinged pale green, owing to diffusion. In the denser accumulations, all traces of prism-arrangement may be lost and simply large, finely granular patches, with occasional larger granules of deeper tinge, show in the field. As far as I could judge by my incompleting experiments, they absorb the anilin dyes eagerly and lose them as readily.

I think green-stain is a chromogenic phenomenon attending, under some conditions, bacterial life within the mouth.

Cosmos.

REFITTING LOOSE RUBBER PLATES.—Spread over the suctional surface of the old plate a thin sheet of wax, such as is used for trial plates, avoiding all overlapping of the edges of the wax; Then warm the plate and wax, insert in mouth and direct patient to bite firmly, but not enough to cause the plate to yield to absorbed portions of the mouth. Thus the correct articulation of the teeth is retained, while a new impression of the suctional surface is obtained. After flasking and separating, cut away some of the old vulcanite, to obtain cohesion with the new. If it is desirable not to add even the thin sheet of wax to the conspicuousness of the teeth, this cutting away of the old vulcanite may be done before placing the wax. Where buccal and labial absorption has been great, as often occurs, an extra thickness of wax is needed along these parts of the plate; then, prior to investing in flask, pour plaster into the newly-impressed plate and cut away with a file, the old vulcanite, if unduly protuberant along the labial and buccal surfaces.

Stewart J. Spencer.

THE NUMBER OF PHYSICIANS AND DENTISTS.

Dr. C. W. Stainton, Buffalo.

In medicine, which is as old as the human race, the law of supply and demand has long been practically established; the number of medical men in any community or country is a fair measurement of the number needed in that community or country.

The following table (1895 estimated) shows the proportion of physicians to the general population in this country, according to the census reports, from the time physicians were first enumerated separately in 1850, which reaches back to 1840, and practically covers the period of dental education in this country:

TABLE I.

Census.	Population.	No. of Physicians.	Av. Pop. to Physician.
1850.....	23,191,876	40,765	570
1860.....	31,433,322	55,159	570
1870.....	38,558,371	62,448	617
1880.....	50,155,783	85,671	586
1890.....	62,622,250	104,803	597
1895.....	70,500,000	120,000	587

The average population to each physician from 1840 to 1890 is 588, which gives for 1895, 120,000 physicians. Percentage estimated on growth from 1870 to 1890, gives about the same results. Dr. Stainton produced other evidence that 120,000 is not too high a figure for the number of physicians at the present time.

With about five medical schools in existence in 1800, there have since been formed nearly 300 more, of which fully 50 per cent have died or been absorbed by stronger institutions. From the best data attainable, Dr. Stainton thinks 140 to be about the number now in operation; but Mr. Lovick Pierce, Acting Commissioner of Education, had supplied him with data from the yearly reports of that office showing the numbers of medical schools at the various periods named to be: In 1860, 46; in 1870, 72; in 1880, 90; in 1890, 116; in 1895, 156.

The next table shows the comparative growth along medical and dental lines:

TABLE II.

Census.	Population.	No. of Physicians.	Av. Pop. to Physician.	No. of Dentists.	Av. Pop. to Dentist.
1850.....	23,191,876	40,765	570	2,923	7,934
1860.....	31,443,322	55,159	570	5,606	5,607
1870.....	38,558,371	62,448	617	7,839	4,918
1880.....	50,155,783	85,671	586	12,314	4,154
1890.....	62,622,250	104,803	597	17,498	3,579
1895.....	70,500,000	120,000	587	25,000	3,134

Dr. Stainton believes that, though the number of dentists above given might seem too large, it was probably too small, in

partial support of which he presented the following table of fifty of the largest cities, which, while not exact, has been prepared with care and with the best assistance he could enlist. Such errors as there are are on the safe side:

TABLE III.

CITY.	Population.	Physicians.	Aver. Pop. to Phys.	Dentists.	Aver. Pop. to Dent's.
1 New York, N. Y.....	2,000,000	3500	571	1200	1666
2 Chicago, Ill.....	1,700,000	2722	624	704	2414
3 Philadelphia, Pa.....	1,200,000	2357	509	526	2280
4 Brooklyn, N. Y.....	1,000,000	1561	626	528	1852
5 St. Louis, Mo.....	600,000	1190	504	160	3750
6 Baltimore, Md.....	600,000	915	559	185	2767
7 Boston, Mass.....	500,000	875	569	325	1538
8 Cincinnati, Ohio.....	350,000	695	432	150	2000
9 Cleveland, Ohio.....	350,000	601	576	114	3070
10 Pittsburg and Allegheny, Pa...	350,000	586	597	140	2500
11 Buffalo, N. Y.....	350,000	544	643	140	2500
12 San Francisco, Cal.....	350,000	827	421	241	1452
13 New Orleans, La.....	300,000	307	977	88	3409
14 Milwaukee, Wis.....	270,000	200	1350	90	3000
15 Washington, D. C.....	270,000	600	450	226	1194
16 Detroit, Mich.....	260,000	400	650	125	2080
17 Minneapolis, Minn.....	225,000	340	661	80	2812
18 Newark, N. J.....	215,000	242	888	86	2500
19 St. Paul, Minn.....	190,000	174	1092	70	2714
20 Jersey City, N. J.....	180,000	170	1058	40	4500
21 Louisville, Ky.....	180,000	360	500	53	3396
22 Kansas City, Mo.....	160,000	450	355	85	1882
23 Rochester, N. Y.....	150,000	325	461	70	2142
24 Indianapolis, Ind.....	150,000	385	389	70	2142
25 Omaha, Nebr.....	140,000	190	736	25	5600
26 Troy and Suburbs, N. Y.....	140,000	166	843	30	4666
27 Worcester, Mass.....	130,000	175	742	53	2452
28 Providence, R. I.....	130,000	314	417	75	1733
29 Toledo, Ohio.....	120,000	204	588	35	3428
30 Denver, Colo.....	120,000	450	266	85	1411
31 Columbus, Ohio.....	120,000	268	458	40	3055
32 Syracuse, N. Y.....	116,000	200	580	50	2320
33 Atlanta, Ga.....	100,000	250	400	38	2631
34 New Haven, Conn.....	100,000	170	588	43	2325
35 Albany, N. Y.....	100,000	225	444	30	3333
36 Grand Rapids, Mich.....	85,000	188	452	46	1804
37 Richmond, Va.....	85,000	220	386	60	1416
38 Nashville, Tenn.....	85,000	200	425	38	2236
39 Paterson, N. J.....	80,000	85	941	20	4000
40 Wilmington, Del.....	70,000	100	700	20	3500
41 Seattle, Wash.....	60,000	117	512	33	1818
42 Hartford, Conn.....	60,000	120	500	40	1500
43 Camden, N. J.....	60,000	116	515	20	3000
44 Springfield, Mass.....	52,000	128	406	32	1625
45 Chattanooga, Tenn.....	50,000	100	500	20	2500
46 Sioux City, Ia.....	50,000	60	833	15	3333
47 Tacoma, Wash.....	45,000	80	562	25	1800
48 Portland, Me.....	38,000	90	422	26	1461
49 Akron, Ohio.....	30,000	57	526	20	1500
50 Salem, Ore.....	15,000	40	375	12	1250
Total.....	14,081,000	24,639	571	6427	2190

This table shows the estimate of the number of dentists to be too low. The writer had not found any list in a city directory which was not below an accurate compilation. The table shows, also, that the distribution of dentists is pretty universal. The proportion is greater in the smaller than in the larger cities. Thus the ten largest cities in the list average one dentist to each 2,152 inhabitants, while the ten smallest have an average population of 1,892 per dentist. No one doubts that the rural communities are well supplied. The population of the fifty cities named is in round numbers 14,081,000, or twenty per cent of the entire population; the number of dentists in these cities—6,427—multiplied by five would give a total of over 32,000 for the country at large.

The following shows the production of dentists during the last decade, the falling off from 1892 to 1893 being explained by the adoption of the three years' course at that time:

YEAR.	NO. OF SCHOOLS.	GRADUATES.
1886.....	24	503
1887.....	28	597
1888.....	29	746
1889.....	31	796
1890.....	33	963
1891.....	33	1241
1892.....	39	1483
1893.....	35	379
1894.....	47	905
1895.....	48	1208

An attempt to get from many sources estimates of the percentage of the population in various cities who employ dentists resulted in fifteen returns, ranging from fifteen to sixty-five per cent, with an average of twenty-five per cent, which is probably too high. Another attempt was made to get at the point by formulating an idea of the average number of people making up the clientele of a reputable practitioner, but the task was difficult. Where the writer could call and explain what was wanted, there was no difficulty; but the effort to get the information by correspondence from comparative strangers was not so successful. In a discussion before the Illinois State Dental Society in May, 1894, the consensus of opinion was that a man could care for only about five hundred patients each year. Dr. J. D. Thomas, some years ago, received estimates from ten of the leading practitioners of Philadelphia, showing the average number of patients each year to be about four hundred. These last figures are probably too low, as the dentists furnishing the data were those having a choice clientele; and the rule is, that as the practice becomes choice the number almost necessarily diminishes. Estimates received by the writer from thirty different

dentists, all of good repute, in various sections, vary from a little over 300 to 1,000. His own estimate of the average would be about 600, which would give for the 25,000 dentists a constituency of 15,000,000; and he thought it very doubtful whether we have any such number. It must be remembered that during the period under examination we have received 15,000,000 immigrants, who became at once on their arrival a part of the medical constituency, but were in no sense, except by slow education, a part of our dental constituency.

The deduction from these statistics is that the dental ranks are as full to day in the United States, in proportion to the demand, as the medical ranks. Quite a percentage of medical graduates abandon practice because their calling is so overcrowded. The overcrowding of our ranks in any locality is prolific in cheap and nasty practitioners, and the lowering of the standard and character of our specialty. The overproduction of dentists is not a good thing, either for us or for the public. We cannot forbid any young man the study and practice of dentistry; but raising the standard of admission to the colleges and lengthening the course of study, so that it takes as long and costs as much to enter dentistry as medicine, will do much to deter from the hasty entering of dental schools. The multiplication of dental schools is the chief danger in this direction. There are about one hundred and fifty medical schools. An equal proportion would give us thirty dental schools. In medicine there is a school to 770 practitioners; in dentistry, one to 400. The multiplication of dental schools and the overproduction of dentists will cure itself in time; but that is an expensive and deteriorating method.

Dental schools are not being formed now from an educational necessity. Two impulses now control—first, personal ambition to have a position in and be connected with a dental school for the prominence it is supposed to give; and, second, a purely commercial spirit on the part of medical schools. Over sixty per cent of our schools are appendages to medical institutions, and nearly every dental school started in these later years has been under this outside influence.

We have the moral right and the proper organization to cure this evil. The National Association of Dental Faculties ought to at once serve notice: "That hereafter no dental school would be accepted under any circumstances unless the consent of the association had been first asked and received for its formation." This is the course adopted of necessity by the chief religious bodies in all our large cities. The Faculties Association has proved its character and wisdom beyond the largest expectation. A body

which can modify and improve at every point its own interests, constantly bettering the condition of everything it touches with its scepter of power; that can chastise its own members, however old or intrenched in position, yea, better, can reach outside its own circle, and correct and punish the unseemly behavior of older institutions who seem to feel a call to lord it over us; an organization which has done all this without even the smell of fire being found on its garments need not hesitate to undertake any needed reform. The moral force of twenty-five thousand dentists, yea, of all the world, would sustain it in such a movement. *Cosmos.*

WHITHER ARE WE DRIFTING ?

Condensed by *Cosmos.*

Dr. W. C. Barrett, Buffalo.

Premising that dentistry is an integral part of medicine, and that there is a constant extension of the field, a more complete comprehension of the principles involved, and an expansion of the benefits conferred, thus augmenting the work to be done, the demand for dentists would increase in a greater ratio than the population.

At the close of the Revolutionary War the population of the country was about 3,500,000, with probably not more than 20 dentists, giving one to 175,000 of population. But the dentistry of that day was limited in scope and the operations few indeed.

In 1830 the population was about 12,750,000, and the dentists about 700—one to about 18,000 population. The scope of dentistry had been materially broadened, but had not yet invaded any part of medicine.

In 1850 the population was 23,000,000, with 2,923 dentists—one for each 7,800 of the population. Then came the advent of rubber and a horde of young men, only a small proportion of whom came to dentistry by way of the colleges, which had then commenced their beneficent work.

About the year 1870, when the population had reached 38,500,000, educational ideas had permeated dentistry, and dental legislation was repressing the ignorant. More colleges had provided better means for education, and a diploma was recognized as the first essential for proper practice. The scope of dentistry was immensely expanded, and the necessity for medical training was beginning to be recognized. There was room for more dentists because of the greater field they occupied, and the census showed, 8,732 dentists—one for each 4,400 of population.

We now have a population of near 70,000,000, with over 23,000 dentists, allowing one for each 3,000 of population. Yet the amount of work done by each individual dentist is much greater than when there was but one practitioner to 175,000 population. We have nearly fifty colleges, each doing something toward extending the field of dentistry. Dentists this year are performing operations and treating conditions unthought of last year. It is but a few steps back in the memory of some of us when any surgical interference on the part of the dentist beyond the extraction of teeth would have been deemed a violent assumption, while to assume the treatment of any oral disease would have subjected him to censure. His practice was confined to the filling of holes in teeth and prosthetic work exclusively, and he was rated in the community as only one degree above the shoemaker. To-day a considerable portion of this body has entirely abandoned mechanical work, a fact which is evidence of the broadening of our field and of the tendency toward a division into specialties, as in medicine. Extraction is now largely relegated to the man who does nothing else; the dentist writes his prescription for and directs the treatment of a large and constantly-augmenting list of human ailments. While dentists have greatly multiplied in number, the wails of the pessimists who declare that the colleges are turning out graduates at a rate that must soon make their number greater than that of their patients, come mostly from the old-time practitioners who have not broadened their practice with the advance of modern ideas, or kept pace with professional progress. They forget that the colleges are year by year digging the stream deeper and making it wider in a greater ratio than they are peopling it with occupants.

The profession is growing in importance at a rate that no educated body of men has yet emulated. We can easily see the time when there will be fifty thousand dentists in this country. What are we doing toward securing an organization that shall make of them the most effective body of practitioners the world knows? The American Dental Association, with a membership of about two hundred and fifty, comes the nearest to being a true national association. What shall be done to increase our representation? Evidently something to promote the communistic side of our meetings. This, it seemed to the writer, must be by division rather than wider aggregation. There is little in common between the representative from New England and the one from the great southwest. A line drawn midway between the eastern and western extremities of the United States would fall in the Pacific ocean three hundred miles west of San Francisco. The country is too large to make this association really representative. It is impos-

sible for the members from all sections to meet at one central point, and if it were, there is not a sufficiently intimate acquaintance among them to tempt them to travel so far.

The efficient organization of the dental profession for the future demands a different course from that of the past. We should have a number of great societies, meeting annually, with perhaps delegates from each of them to form one central association, which may meet either at a fixed point or itinerate among the different sections. It would be invidious to propose a special form, but it would seem that we naturally tend toward four aggregations: one for the East, one for the West and Northwest, one for the South and Southwest, and one for the trans-montane portion of the country.

The American Dental Association has not yet served its full purpose, but what can we do to make it more effective? Some years ago a committee appointed to consider this very matter, after two years of careful study, unanimously arrived at a conclusion, and presented certain amendments to the constitution, which they believed would result in great good. For three years that report has been before this body without receiving any special attention, though he had yet to hear of any special objections to it. All admit that the representation here is not what it should be, but nothing is done to improve it. Dr. Barrett hoped the matter would be thoroughly considered this year, and that we shall at least take steps to improve the social condition; that we shall bring here less of personal interests to be served; that we shall strive to keep out the mercantile spirit, and devote the time to affairs of a broad professional nature.

A STUDY IN DENTAL ANESTHESIA.

Dr. N. S. Hoff, Ann Arbor, Mich.

NITROUS OXID.

The comparative safety of nitrous oxid as a general anesthetic has made it deservedly the most popular for all brief surgical operations, especially in dental practice. Its administration is, however, attended with so many objectionable symptoms that many good operators are unwilling to make use of it. The principal objection is its tendency to produce symptoms similar to asphyxia, if not identical, and consequent dangerous results. The most successful efforts to overcome this tendency have been those where oxygen has been combined with the nitrous oxid in some form as a corrective.

The advantages of nitrous oxid and nitrogen lie in the fact that the asphyxiating symptoms are delayed or prevented and a larger quantity of nitrous oxid is presented to the sensory tissues, and, consequently, more profound anesthesia results. More time is required for effects, but a somewhat relative lengthening of the period of insensibility follows.

I have no time to review in this abbreviated paper the experiments of Prof. Paul Bert, who succeeded in maintaining complete anesthesia for 26 minutes with a mixture of N_2O O, with no unpleasant symptoms of any sort, by administering the mixture under a pressure of one and one-half atmospheres. Nor of Professor Hillischer, of Vienna, who obtained complete anesthesia for a shorter period with a similar mixture without the addition of atmospheric pressure. These experiments stimulated Professor Hewitt to investigate the subject, and in a long series of experiments in over 800 cases he came to the conclusion that it was a practical idea, and has invented a suitable appliance for the proper mixing and administration of these combined gases. He found by experiment that from 10 to 12 per cent solution of O in N_2O answered general purposes, but that individuals required modification of the formula, and that an apparatus capable of ready and quick adjustment was necessary to meet various symptoms as they arose, and that no diagnosis was possible by which the best proportion of the gases could be prepared in advance, but the oxygen supply must be brought on as needed. This he claims to have effectively accomplished in his apparatus.

In using this mixture and apparatus in 67 tabulated administrations, it was found that anesthesia was brought on in 66 seconds as the shortest and 186 seconds as the longest period, and the shortest duration of complete anesthesia was 44 seconds and the longest 80 seconds. It is observed that recovery is not so prompt as with N_2O alone.

The quantity of O will vary with different persons and must be controlled by the administrator. It is best to begin with a small percentage and gradually increase it as indications demand. Excitement stage is shorter with a smaller per cent of O. The face piece must fit accurately to exclude all air. Silence and absence of contact with the patient are essential to quiet and successful results without excitement or violence. The margin between peaceful anesthesia of the mixture and the usual manifestations of nitrous oxid is so narrow that the patient must be closely watched. More oxygen should be given to debilitated or weak persons than to strong-minded, stubborn, or vigorous ones.

The conjunctival reflex is the best indication of complete

anesthesia, but snoring and relaxation are also useful indications. The first application of the forceps will sometimes get a slight reflex response, but not sufficient to require any further anesthetic.

Patients do not have the horrible dreams nor scream under the mixture as they do with nitrous oxid alone. They also feel better on recovering, and present a better appearance. The tongue and mucous membrane are not congested or swollen. The mixture acts well in cases of weak circulation, as the pulse is stronger and steadier without the usual primary excitement of nitrous oxid and none of its after depressing effects.

The unfavorable action of the mixture causes considerable prostration, due to the longer and more complete anesthesia, and a feeling of nausea and sometimes vomiting; also, more time must be given to recovery. More skill is required to administer it, and strict attention to the manifestations and prompt application of remedial measures. More time is consumed in the operation.

It is recommended for use in children, anemic and debilitated patients; persons easily anesthetized by nitrous oxid; and those who do not take nitrous oxid kindly—old people, persons with diseased circulatory organs.

I would suggest:

(1) The use of gasometers to obtain required and uniform pressure, and the amount of pressure necessary to secure the best mixing or diffusion of the gases in definite proportions.

(2) The extent to which this mixture may be used without injurious results, such as the paralysis of the vital nerve centers experienced with other anesthetics.

(3) A qualitative analysis of the blood under complete anesthesia with the mixture, with special reference to its oxygen.

(4) A careful experiment as to the ultimate physiological effect on the sensory tissues.

Ohio Journal.

My method in filling roots is, after thoroughly cleansing the canal, to take a little oxichlorid and carry it up into the canal, and insert into that a fine point of gold wire or a sprig of gutta-percha. I believe that oxichlorid is the only thing that will go to the apex.

Use Donaldson's broaches or cleansers, not the barbed ones, but the fine points, and you can generally go to the apex, and sometimes beyond it. This can be easily tested by imbedding teeth in plaster and filling them and breaking them open. I consider this a good method.

Wm. Crenshaw.

COCAIN.

Dr. N. S. Hoff, Ann Harbor, Mich.

In my early experience with cocain as a dental anesthetic, I, like every one else, encountered difficulties, or embarrassing situations to say the least, which tempted me to forego the use of this valuable drug as a safe and practical local anesthetic. Yet its satisfactory obtundent qualities left no choice but to make use of it, though such use seemed to be attended with a considerable measure of hazard. Like many others, who have tasted of its beneficial action, I began experimenting with the drug to make combinations which would render its use more practicable and safe. I began with a 6 per cent solution for hypodermic use, on the base that one grain could be safely used as a dose. I was not long in discovering that either the dose or concentration was entirely too high, and I now know both were. I experimented with various solutions, and finally came to the conclusion that for hypodermic injections a 2 per cent solution in water was sufficiently saturated for any purpose, even for use in anesthetizing pulps, and generally where it can be used, a 1 per cent solution would accomplish definite and satisfactory results. I have even secured very satisfactory anesthesia, for extracting a tooth, with a solution of the strength of $\frac{1}{8}$ of 1 per cent. The doses of cocain I have gradually reduced from 1 grain hypodermically to from $\frac{1}{16}$ to $\frac{1}{2}$ gr.

The great objection to cocain lies in its tendency to induce hysteria, when given in small doses, caused by its stimulant effect on the nervous system; also its depressing action on the respiration and heart when used in excessive doses. The tendency to hysteria and respiratory difficulties are the most important complications to consider, because they occur when least expected and sometimes with small doses, while the depressing heart effects only occur in peculiarly weak conditions of this organ, or as secondary to the respiratory difficulties, or because of excessive dosage.

My first experiments to control this nervous excitement were with the standard narcotics, morphin and chloral. I soon found that many persons were highly susceptible to the use of morphin, and that chloral was objectionable because of its bulk and its excessive irritating character when injected into the soft tissues, causing sloughing of the tissues. The experiments of Dr. Pruyin convinced me that morphin was the most accessible drug to control this excitement effect, and on looking it up I found that atropin was morphin's great antagonist, especially against its poisonous and nauseating effects. I therefore began using a combination of

cocain, morphin and atropin, and soon found that I had a satisfactorily corrected formula, and that the drugs seemed to harmonize therapeutically in producing a more powerful local anesthesia, and that systemic disturbances were very rare with proper doses. This combination I am now using as a local obtundent with good results. I use sterilized water to make the solution, and to prevent possible decomposition make the solution fresh daily or as needed for use. The formula I use is as follows :

R.—Cocain.....	gr. $\frac{1}{2}$.
Sulfate of morphin.....	gr. $\frac{1}{8}$.
Sulfate of atropin.....	gr. $\frac{1}{200}$.
Sterilized water.....	gtts. xxx.

Mix and inject hypoder. gtts., v to xv.

For convenience I have had the cocain, morphin and atropin made into soluble tablets by Parke, Davis & Co., of Detroit, and in this way solutions of any strength desired may be quickly and accurately made with little or no inconvenience. The sterilized water I use is distilled water containing from 8 to 10 per cent of listerin or euthymol to keep it sterile. If you desire to make a 2 per cent solution, all that is necessary is to dissolve one of the tablets in 25 minims of water. A 1 per cent solution can be made by dissolving one tablet in twice this quantity of water, or 50 minims. A 4 per cent solution can be made either by reducing the water one-half or adding another tablet to the 25 minims, etc., etc.

The advantage of this method of making solutions is that you can always have pure, clean solutions, and the preparations are portable in small compass. The drugs used in the tablets are the purest that can be had, and the firm assure me they are especially careful in filling all such orders. Another advantage is that other correctives or adjuvants may be added to this formula when the solutions are made.

In my opinion the manner of using cocain in dental practice has much to do with the disrepute into which this most valuable drug has fallen. It is an excessively poisonous substance and must be used with the greatest caution and care. There is a tolerably well marked outline beyond which clinical experience has demonstrated we cannot go without hazard. Not more than one-half grain, nor in stronger than 2 per cent solution, should ever be used at one sitting as a hypodermic injection. It should be used with a clean syringe in perfect order, and injected only a little faster than the tissue will absorb it. Excessive pressure on the syringe will cause irritant results and introduce more of the drug than is necessary to produce desired effects. All excess or overflow should be prevented or absorbed before it comes into contact with the

tongue, as it will be quickly absorbed by the tongue, or if swallowed produce paralysis of the pharyngeal and laryngeal muscles, and induce dyspnea and develop hysterical symptoms. The best systemic fortifier is coffee or food.

Ohio Journal.

HIGHER DENTAL ETHICS.

J. H. Smyser, D.D.S.

A sufficient number of propositions or principles of ethics are universally accepted by enlightened society to form a firm basis for the doctrine of ethics, and the highest and noblest branch of speculative philosophy.

Few, indeed, are the men who would attempt to controvert any part or parcel of the doctrine contained in the simple injunction, "Do to others as you would have others do to you." This, of course, is only one of the many index fingers which points with an unerring directness toward the highway along which move the best type of the upright man. * * *

To avoid the many undesirable infractions on the code of ethics we must endeavor to improve our institutions of learning; to do this, more time and attention should be devoted and greater care observed in making good honest impressions on a student, affecting the character of the professional life he is about to lead.

In passing through many of the colleges of our cities, and observing their way of doing things, the relation between instructor, demonstrator and student, and the manner of treating their patients, reminds us of a typical dental parlor, and the more time devoted to the investigation of those infirmaries the more striking becomes this comparison. The old adage, "As the twig is bent the tree is inclined," can be applied right here.

It is not true that in art, business and the professions, students follow the general style of their instructors, or the institutions from which they secured their education. We believe that the greater fault lies in the fact that most of our so-called colleges are conducted in too great a measure as money-making mediums, and since, as a rule, the men on the higher rounds of the ladder in the profession are the ones usually connected with those institutions, either as directors or faculty, they are responsible for the way in which that institution is conducted.

To the same fact may be added the inability to obtain any satisfactory legislation in restricting authority to corporations to grant license to individuals to practice dentistry. Hence we have

weak colleges scattered all over the land, offering any and all kinds of inducements to students to go there and study dentistry, regardless of ability, character or previous conditions of servitude. It is not even necessary to know or understand the language used in the institution. The one thing needful is time and money, and a specified amount of operative and mechanical work representing so much cash. Having filled these few most important requirements, they are furnished with license to practice dentistry. What can we expect from such a condition of things, and who is to blame?

I hope each of us will become interested enough in this subject to formulate some answer for himself. A few of the colleges are, without a doubt, attempting to improve these conditions, endeavoring to impress on the students the fact that they have some honesty of purpose, and aside from giving them the best possible instructions on the theory and practice of dentistry are also inculcating principles of a higher character, satisfying the requirements of the honorable practitioner. * * *

Abuses are not alone confined to this lower strata of the profession. A common evil among the "upper crust" is in daily practice in the form of exorbitant fees.

The evil in this respect is greater and more dishonorable than in the case of the dental parlor man, from the fact that the class of men in question are of a different type, whose intelligence and knowledge of values tell him that the transaction with his dentist was dishonest, and is a means of breeding distrust, in destroying the ethical relation between the public and profession, which is of far more importance than that between men of the same profession.

The result of experiences of this nature can be seen when individuals take up the daily papers and scan the columns for rates on dentistry, pass from the sublime to the ridiculous, take chances with the fates in preference to submitting to an unjust fee.

I do not believe much in technical ethics; different writers on this subject draw the line of demarcation between professions too sharply, as in the case of the city dentist accusing the country physician of a breach of ethics because he extracted an aching tooth for his neighbor; or, on the other hand, the physician censuring the dentist for advising a remedy for the cure of sick headache, or wiping a chunk of soot from a patient's eye. This is not what is meant by higher ethics, but finds its application in the rules and regulations of labor unions. We should be far beyond any such petty jealousies; place our aim higher; show to the world that we are public benefactors; be honest with each other in all our dealings, and carry out to the letter what is implied by the Golden Rule.

Dominion Dental Journal.

SOME INCOMPATIBILITIES.

Dr. J. S. Cassidy, M.D., D.D.S., Covington, Ky.

Fashions in the exhibition of medicines, as in other things, have their periods of change. This fact obtains in the selection of drugs for either local or internal use.

Thus there are many physicians yet living who in their earlier years of practice gave calomel *ad libitum*, to the point of mercurial saturation; it was the distinctive fad in those days, possibly because of a vague idea—an adumbration, as it were—of the present accepted theories of bacteriology, that big doses would be destructive to the materials involved in both the causes and consequences of the disease in question.

A few Samsons, as they were called, were regarded as the principal individual “bases” of various combinations, which also usually contained multitudes of auxiliaries and correctives that were pretty sure to “catch the ‘coon either comin’ or goin’.” In these combinations there were too frequent association of decided incompatibles. Now the tendency is to write prescriptions that include but few ingredients. Indeed, it is becoming more and more the style to order only one article, but of recognized utility, a habit due, doubtless, to the many pharmaceutical preparations which have become official, and which, though multiform in their composition, have been given each an individual name, thus simplifying matters very much; so much so that possibly even now, to say nothing of the immediate future, a paper of this sort may be somewhat out of place; and yet man is not and will not be perfect; if he were so, no suggestions would be needed, and no meetings of this kind would be held.

I have known a patient who successively and repeatedly visited two specialists during the same half hour; one of them would wash out the antrum and nares with a solution of common salt—a good medicine—and then the other would effectually swab the throat and contiguous parts with a solution of silver nitrate—also a good medicine—neither practitioner being aware of the other application, while the patient received in those parts the questionable service of silver chlorid. Another case, somewhat similar—passive hemorrhage of the gums, treated locally by free application of tannin. In a few hours another doctor applied perchlorid of iron. Enough ink was manufactured by this process to convince doctor No. 2 that a good thing in the wrong place might be worse than a negative quantity. These two homely illustrations are in evidence against the evil tendency of too much subdivision in the field of

practice; that though medical men, including dentists, are rapidly adopting mono-pharmacy, the specialists are increasing in number, and inasmuch as each specialist is a law to himself in regard to his favorite medicines, there must be many cases of a separate and successive reception of incompatibles by the same unfortunate patient. It is well known that when two or more of the major number of soluble salts are mixed together in solution they are prone to exchange their radicals, and thus lose their former identity. Sometimes, however, they are given with this object in view, as, for instance, to obtain in a pleasant way the benefits of potassium citrate, potassium bicarbonate and hydrogen citrate are mixed, and the result secured. There are, of course, exceptions to this rule of salts so suffering mutual decomposition. Equal quantities of sodium chlorid and potassium permanganate in aqueous solution produce an excellent disinfectant and antiseptic wash for either suppurating or simply inflamed surfaces; to these effects the practitioner might wish to add a stimulant; if alcohol, for instance, is the one chosen, it will violate the virtue of the others, and a dark magma, explosive when dry, will be the principal issue of the union.

Potter says that "catechu and potassium chlorate in a dentifrice have exploded in the mouth from the friction produced by a dry tooth-brush." We all know of the colorless tincture of iodine, developed by ammonia, which, instead of being what its name indicates, is in point of activity, ammonium iodid, a very dangerous substance. Electrozone, a new disinfectant produced by partial electrolysis of sea-water, is incompatible with the same substances that antagonize Labarraque's solution, its chief active principle being sodium hypochlorit.

Analogous compounds of iodine and bromine are also present, and though in limited quantities, their virtues are not to be overlooked if we wish to receive the full benefits of this new candidate for professional favors, and therefore should be guarded against the many incompatibilities that necessarily affect the good influences of anything, medicinal or otherwise, which lays claim to Uncle Sam's motto of "many in one." A number of authors could be quoted on this subject, and many instances selected from dental and medical journals, to prove that the prescriber is too often forgetful of his duties in this respect.

Ohio Journal.

SELF-DENIAL.—The key to success in any department of life is self-denial. Idleness, laziness, wastefulness, comes from lack of it; while industry, promptitude, economy, thrift, and a successful career are the result of it.

Neal Dow.

THE DENTAL STUDENT.

William W. Belcher, D.D.S., Seneca Falls, N. Y.

"She taught the child to read, and taught so well,
That she herself by teaching learned to spell."—BYRON.

No subject in dentistry should command more of our careful attention than that of the student. Some of us there are who refuse to discuss the student as a living, burning issue. Away with him, ye youth of inexperience!

That this is a condition and not a theory that confronts us was amply illustrated in the report of the Secretary of the New York State Dental Society on the enforcement of the law of 1892, requiring every person engaging in the study of dentistry to file with the Board of Censors a certificate of studentship. The Secretary in his report says: "This portion of the law has been of great value in three things: First, in revealing the large number of persons engaged in dentistry claiming to have been students ten, twenty, thirty, and two or three even thirty-five years. Secondly, the enormous percentage in the first district—sixty-four per cent of those registering coming from New York City. Thirdly, the small percentage of those claiming to be pupils of recognized reputable practitioners of our profession. Out of the one hundred and forty-two students that have actually registered, eleven only have preceptors that are members of either the State or District Societies—twelve and one-half per cent, and if we were to take the three hundred and seventy-two asking for blanks, the percentage would be still less."

This statement of facts is startling. Only twelve and one-half per cent of the students of the State of New York are with members of our State and District Societies!

It is not claimed that all the worthy members of our profession are society members, but it none the less goes to prove that a large percentage of our students of to-day are either content or compelled to take up the study of dentistry with the "dental associations" and "dental parlors." It also goes to prove that our society members are not doing their duty in this important work, leaving the field to be tilled by the less worthy members of our profession; for it is a fact that the members of our dental societies are the representative men in their section.

Granting the teaching of the "dental parlors" to be *par excellence*, what can you say of the ethics? Association is everything; "like father, like son," is the old saying. When the student has been taught to look at the society with suspicion, that fifty cents

is the correct price for filling teeth—more is extortion and robbery—that advertising “pays,” and a cheap article of dentistry is the proper thing, what can you expect of the future?

“Not for thousands of dollars would I have a student in my office,” says one prominent member of our profession. Here we have the trouble. Talk as you may of “legislation” and the “elevation of the college,”—legislation may suppress total ignorance and even empiricism to a degree, but it cannot force mediocrity into thorough competence. The colleges have done much; they can only lead the way; nothing can take the place of thorough office instruction, not only in operative technics but in professional ethics and business methods. The advancement of the profession is in our own hands; to cleanse the stream we must purify the source; to the student we must look for the future dignity and usefulness of our profession—its further advancement and uplifting. How careful, then, should be the selection of the student! It is unnecessary to say that among the first prerequisites should be sufficient mechanical ability, education, and refinement.

He should be of good morals and character; the public judge you by your students, by the raw material, therefore let the standard be high, as a student of low morals or character cannot help but reflect on your office and yourself.

Take a personal interest in your student—you will both learn; to my mind it has ever been a question who learned the most, the student or myself. How easy it is to forget! What perplexing questions! But you are expected to know; and it is rather humiliating to confess ignorance of a subject with which you have been and ought now to be familiar; therefore the student is a stimulant, an incentive to review work long neglected and forgotten.

Don't expect impossibilities of the boy; do you not see your own mistakes reviewed before you? It is given to only a few of us to be “born dentists.” Save and protect us from some of the specimens we have encountered!

Do not make a playfellow of him; it may be that no man yet was ever a hero in the eyes of his valet, but let that be no excuse for sacrificing your dignity or authority. Keep him in the laboratory; he will have plenty of opportunities at college to learn operating; the country is full of second-class operators, but good mechanical workmen are like angels' visits—few and far between.

Teach him that he must first acquire principles before he can apply them, that the study of physiology is impossible without a thorough knowledge of anatomy.

See to it that he selects a first-class school for his education—you are responsible for this. You may say that it makes no differ-

ence so long as he has a diploma. No, indeed! there are colleges and colleges, diplomas and diplomas. The public are becoming rapidly educated; they know the good and the poor schools. Talk with some of your patients, and you will be surprised at their knowledge. Graduation from a first-class college is a benefit all through life; one makes associates and acquaintances that are of incalculable value; the better the school the more desirable the associates.

He comes back from college, "simple as a child, green as a salad," to tell you "the latest." How boldly he offers suggestions, ay, even criticism! Deal with him kindly; he will soon see the error of his ways. He is in his own mind a greater man, a better dentist, than he ever will be in the future; disappointments, failures, trials, temptations, and the loss of self-confidence will insure a balance—they come to all of us. What one finds the world just as he likes?

Youth and new wine each need the mellowing influence of time to bring them to their greatest perfection. Wine is wine, the juice of the grape. Yet time and age do not necessarily bring to it excellence; care, experience and attention are necessary in its production; so in youth, golden opportunities and natural ability are not always the forerunners of prosperity and success—age, experience, adversity, temptations resisted, hopes deferred, trophies unwon, all go to the formation of character, life, the crucible; cares, the fiery furnace, freeing from dross, forming true character and manhood.

Give him good advice and, best of all, good example—not that he needs the advice or will accept it.

Tell him of your mistakes; not that he ever expects to make any; oh, dear, no! It is surprising how little we learn from others; their failures are nothing to us; we are so constituted that we cannot to any degree profit by another's experience. If we only could begin where another man left off; if he might endow us with his knowledge and experience the same as his goods and chattels, how wise we might be!

It has been truthfully said, "There is no royal road to learning;" every man must have the experience of the man before him; after a time comes judgment, ay, even conservatism, if you please.

Time passes, and our young man starts out for himself, only to find that a college education and high-class standing are not always the open sesame to practice. The practical application of principles is not so easy, but, like Anteus of old, rising from each defeat with added strength, the elusive god of prosperity smiles on him. Really, the boy is doing better than yourself. Are you

jealous? Not a bit; he is yours—your creation; you glory in his success and exult in his prosperity. After a time it is supposed you go to see him; how proud he is of his office, of his acquaintances, and the boy actually seems to be proud of you! How prosperous everything appears! Let us hope it is not all on the surface; that he is an exception, a true *rara avis*—a dentist and a business man.

It is to be hoped he will continue to be a student, to learn what little he may of the boundless store of knowledge; that he will attend the dental meetings, exchange ideas with his brethren, and be superior to the little jealousies which are always marks of the narrow mind, and become the master-craftsman, looking down the vista of time to the twenty triumphs behind him, recalling with pleasure the paths which have led him to fame, and at last, like unto the Moses of old, behold the promised land denied to him, but of which he and his time have been the auspicious pledge—a professional standing, yet higher, greater and better, in the age yet to come.

International.

GIVE YOUR GENIUS SCOPE.

As over the doors of the rooms of the enchanted castle in The Faerie Queene the adventurous explorer found written, "Be bold!" "Be bold!" and everywhere "Be bold!" So I would show to the young, inscribed above the doors of the many-chambered house of life, "Strive!" "Strive!" and everywhere "Strive!" Even as I indite the words I reflect that I have unconsciously made this the hidden motive of more than a few of the books that I have written for the young; and if I were to write as many more, I am sure it would somewhere be found at the heart of every one of them.

To the young of America, in this age of unprecedented progress, I would continue to sound this inspiring note. Even for the favored children of fortune—or, rather, I should say, especially to such favored ones—is the stimulus of earnest effort needful. For is it not the great danger of wealth and prosperity that they becalm us in a sense of selfish ease, and lull our aspirations to sleep? On the other hand, difficulties to overcome incite the soul to action and so make poverty a blessing.

The prizes of life may prove disappointing; but in the struggle itself we seize unawares a higher prize—the joy of effort and the development of our powers. Endeavor is a source of physical as well as of moral health. It is armor against disease; it is a bright buckler from which the arrows of evil glance. You may not reach the object of your ambition, but the strong purpose renders life

worth living by the way. Honest endeavor is its own reward. Give your genius scope, and encourage all generous ambitions. Secure all that you can win honestly, and use wisely, of worldly wealth, power, distinction. But do not forget the noblest aim of all, to make the best of yourself, to enlarge your mind and soul; and, last and greatest, always, and without any narrow thought of self, to render service to others.

Strive, strive, evermore strive. But as the explorer of the enchanted castle in Spenser's great poem came at last to a door over which was the final warning, "Be not too bold!" so do you take heed and strive not too much.

J. T. Troubridge, in Golden Rule.

AMERICAN DENTAL COLLEGES.

The National Association of Dental Faculties still continues to exercise an influence for good. Perhaps no more important or hopeful movement has marked the progress of the profession in recent years than the voluntary banding together of the best American schools. Instead of students drifting to other centers where a shorter curriculum was demanded, it has been found that this class of the community was wise in its generation, and really helped and supported the new movement. There was a decrease in the number of graduates in 1893 and 1894, caused by the operation of the three years' course, but a similar condition of things is noticed with us whenever the curriculum is extended. This generally rights itself. There are thirty-two teaching institutions which belong to the National Association. Most of those not on the roll are recently organized, and even these, with a view of rendering themselves eligible for membership, conduct themselves with that end in view. One of the great drawbacks to the Association of Faculties is the ease with which new dental schools can spring into existence. Each State is able to do as it pleases, and during the last ten years the number of schools has doubled. The opinion is expressed that in the future the increase is likely to become even greater, in consequence of the existence of what is described as a "fad" on the part of medical schools to establish a dental department. Out of the forty-four dental colleges, twenty-seven are "operated" in conjunction with medical departments. The criticism offered on this easy method of increase (some of the medical schools requiring no additional charter and already having teaching provision in several of the subjects) is to the effect that it may be profitable to the medical school, but is not calculated to redound to the credit of the dental profession.

We are, however, glad to read the first portion of the following quotation, and at the same time can appreciate the humorous allusion in the latter part. "It is not the desire of the Section to deprecate such a condition, for many of the schools thus connected are among the best of the country; but it should be borne in mind that there are more than two hundred and fifty medical colleges in the United States, and the addition of a vermiform appendix to each of these may fasten on the dental profession a dangerous disease."

Another subject alluded to is the necessity that exists for some uniform test as to a student's proficiency in general education before entering on the professional curriculum. At present every school judges its own candidates, and this leads to "the admission to the ranks of the dental profession to many whose fitness may be questioned with propriety." It is suggested that the degree of Bachelor of Arts, or its equivalent, should be demanded, but then the stipulation is necessary, "provided that it is obtained from a reputable university." Another important thing recommended is the extension of the school year to nine months, and the increase of curriculum to four years. Owing to vacation, and other interruptions, it is possible, under the existing rules, for a man to complete his education without having actually devoted more than twelve months to the study of dentistry.

The earnest men who are in the fore-front of the battle of professional progress in America will doubtless continue their efforts. Too little is known in other countries (where circumstances are different) of the difficulties of the struggle, but our trans-Atlantic brethren may rest assured that they have the sympathy of British practitioners, who (in spite of occasional misunderstandings) welcome good work for the advancement of the profession wherever it may be done. We may, perhaps, just notice that in the discussion which followed the reading of the report, Dr. Abbott referred to the existence of a "Diploma Mill" in Kansas City, legally chartered, and carrying on business in selling diplomas. Dr. Ottoby was also of the opinion that there might be others which escaped observation.

Editorial in British Dental Journal.

AFTER-PAINS FROM EXTRACTION OF EXOSTOSED TEETH.—When the bone has been distended and strained actual osteitis may result, with severe pain and inflammation. Dr. J. D. Thomas, the well-known specialist, says that the application of hot water will act like magic, relieving the congestion and diffusing the induration, establishing normal circulation through the parts.

PRACTICAL POINTS.

Mrs. J. M. Walker, Bay St. Louis, Mississippi.

Mouth Wash for Fetid Breath.—From deposits about tonsils and gums.

R.—Borate of sodium.....	15 grs.
Alcohol.....	½ dr.
Thymol.....	7 grs.
Water.....	1 pint.

Medical News.

An Ideal Antiseptic Paste.—

Pure oil cassia.....	1 dr.
Tereben.....	5 grs.
Iodin.....	5 “

With which incorporate a suitable insoluble mineral or metallic oxid, forming a mixture similar to iodoform paste but without its disagreeable features.

W. B. Ames.

A Good Laboratory Soap.—Combine with common washing soap three times its volume of sifted marble dust and four per cent lysol. This obviates the use of hand-brush.

Southern Dental Journal.

Medicated Gutta-percha.—Gutta-percha can be softened almost to a liquid in boiling water, to which a little glycerin has been added. In this softened state it will absorb tannin, chlorid of iron, carbolic acid, salts of mercury and other hemostatic and antiseptic remedies, retaining its efficiency indefinitely. When saturated with the desired drug cool and form into pellets or roll into sheets. To use, soften in warm water.

C. E. Klotz.

Root Fillings for Incisor Teeth.—For a single-rooted tooth nothing is better than gold. Wind foil on a fine broach, then pull the foil a quarter of an inch beyond the end of the broach and roll it in the fingers, which will give it a fine point, with which the canal can be filled easily.

Dr. Hill.

Relief of After-pain of Extraction.—A pledget of cotton dipped in a saturated solution of camphor in chloroform, placed for a few moments in the socket, will almost instantly afford relief. Remove as soon as pain ceases.

D. W. Barker.

Medication of Root Canals.—A canal from which a healthy pulp has just been removed, when cleansed is in the best condition for filling. No sterilizing or antiseptic treatment is indicated if the tooth has been protected against moisture and the entrance of foreign substances. Medication of such canals is likely to be attended with more injury than benefit.

J. Taft.

To Facilitate Detachment of Plaster of Paris Impression.—Make a small hole through the center of the tray and pass through it a cord, allowing the end to project on the upper side. On withdrawing the cord air is admitted to the vault, facilitating the detachment of the impression. * * *

To Destroy Remnants of Pulp Tissue in Root Canals.—Pack the root canals full of "papoid," and let it remain twenty-four or thirty-six hours. Wash out the root, dry and fill.

T. L. Steele, in Catching's Compendium.

Root Canal Filling.—I use chloroform, then liquid gutta-percha, then gutta-percha points, then heat with hot air and pack solidly.

R. R. Andrews.

Hemorrhage After Tooth Extraction.—Saturate a disk of gutta-percha with styptic tannin of perchlorid of iron; hold in hot water till softened, dry the socket with absorbent cotton and quickly insert the hot plastic styptic, pressing it well down to the bottom of the socket. Heat favors coagulation, 140° F. coagulating albumen. Use no stimulants; faintness being an advantage. Blood swallowed does no harm; it is either digested or vomited.

British Dental Journal.

Poultice for Alveolar Abscess.—Boil a dried fig in a solution of boric acid. Cut in halves and sprinkle the surface with powdered boric acid. Apply to the gum. If the abscess threatens to break through the cheek, apply at the same time an ice poultice externally.

Hugenschmidt.

Broken Instrument in Root Canal.—If the broken portion cannot be removed, dry the root and fill with gutta-percha dissolved in eucalyptol, completing with warm gutta-percha. The steel will not oxidize. Must be done immediately.

Van Vleck.

Acute Pericementitis.—At a point on the gum some distance from the affected tooth, blister by means of ammonia, capsicum, cantharides or black mustard oil, at the same time painting the gingival margin of the gum around the affected tooth with tincture of iodine. The blood supply will be deflected and the resolvent effect of the iodine will soon be felt around the apex of the root.

A. W. Harlan.

Temporary Fillings.—Cotton saturated with chloro-percha makes an excellent temporary filling.

D. D. Atkinson.

Finishing Gold Fillings.—For the final touch, giving a soft velvet-like finish to metal fillings whether gold or amalgam, flour-pumice used with architect's cloth has no equal for both durability and appearance. Stir ordinarily fine pumice in water, allowing

the bulk to settle; pour off the cloudy water in a shallow dish and place it in the sun to evaporate. When dry, the flour-pumice is ready for use.

F. B. Darby.

Pyorrhea Alveolaris.—Catarrhal conditions are best treated by topical applications combining some form of alkali, as—

R.—Potassii chlorate.....	3j.
Acidi carbol.....	3ss.
Glycerol.....	3j.
Aqua dist.....	3iv.

Use as mouth wash or paint over affected parts.

W. X. Sudduth.

Protection of Cement Fillings.—Rosin and wax, melted on a spatula and poured on the surface of cement fillings, does not crumble off as does wax or paraffin. Hardened under rosin and wax for a few days, cement fillings will take a finish almost like polished ivory.

Dr. Darby.

To Retain Dressings in Proximal Cavities.—Slip a piece of rubber tubing over the tooth, giving an additional wall. Plastic fillings may be protected by the tubing in the same way.

D. V. Beacock.

To Renovate Dirty Beeswax.—Melt in water. When cold cut off the dirt found on the underside. Then melt again in clear water, adding a teaspoonful of sulfuric acid when it comes to a boil. If wanted specially tough add a little Venice turpentine. The cake will be as clean and bright as new wax. * * *

To Modify the Unpleasant Taste of Plaster of Paris.—Add to the water to be used in mixing plaster for impressions a few drops of oil of wintergreen or cinnamon.

J. W. White.

Root Canal Filling.—Fill the canal with clear chloroform and insert a tiny smooth broach reaching to the end of the canal, leaving an opening at the side of the broach so that capillary attraction can act. Drop chloro-percha at the entrance of the canal, capillary attraction acting over both the wet broach and the wet side of the canal will carry it surely to the end of the root. Withdraw the broach and insert a gutta-percha point, carrying it quickly home.

Dr. Hodson.

Gutta-Percha Fillings.—Dry the cavity as thoroughly as possible before inserting the filling. Finish off the filling with a small pledget of fibrous paper dipped in chloroform, and finally complete with burnisher. When worn on the grinding surface cut out with a bur and renew. Decay is less liable to recur than under metallic fillings.

Dr. Hitchcock.

OUR QUESTION BOX.

With Replies From The Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

Question 216. *Young lady, of twenty-six years, is suffering with pain at the necks of the teeth. The teeth are apparently sound and gums healthy. She feels like picking them, and often, while doing so, a shooting pain goes through the teeth. Had some trouble eight years ago, when several sound teeth were removed. The last three years two or three teeth have seemed slightly affected; now she suffers from all of them. What is the trouble and best treatment?*

With litmus paper ascertain the predominance of acid or alkali, and remove the cause.

A. A. Cook, Utica, N. Y.

It must be erosion from continued acid reaction of fluids of mouth. If so, magnesia used principally at bed-time would be proper treatment. These obscure pains are quite perplexing, and may be of a reflex nature. The description of apparent health of teeth and gums might lead us to suspect malaria, but the former seems most likely. I can not give an intelligent answer, though I have had two similar cases, both in young women, neither of whom have I seen since treatment. The first was in a lower incisor. I applied trichloroacetic acid and greatly increased the pain for twenty-four hours. The after-effect I am unable to state.

The second was in an upper second bicuspid and first molar. These were treated with nitrate of silver, which at once caused the pain to subside, but I have not seen patient since. In both cases the teeth were apparently healthy, with no recession of gums.

W. C. Bunker, Oregon, Ill.

Question 217. *About two months ago a man called at my office with the left upper cuspid aching. It contained a large oxyphosphate filling, and every symptom of an abscess. I removed the filling, but could find no opening into canal. The tooth was not sensitive, so I drilled into canal and found about half the pulp dead. It required three applications to destroy the rest. Then soreness disappeared, and in a few days the tooth was filled. The next day the tooth was aching hard as ever. I removed filling, treated for an abscess, and it was relieved for a week, then soreness returned. About one day in each week it becomes sore, and then subsides. No swelling. What is cause and treatment?*

I think it is slight absorption of apex of the root. Use daily massage to correct local circulation with application of dilute iodine and aconite.

Dr. L. D. Sells.

There evidently is a crook in the root near the apex in which you have failed to remove fragments of pulp. Cleanse or open to foramen, and then fill the root with chloro-percha, well incorporated with iodoform.

A. A. Cook, D.D.S.

Question 218. *What causes yellow spots (sometimes white) found generally on incisors. Why are some of these spots white and others yellow?*

The spots in enamel are from a diseased action of the pulp at the time of tooth ossification. White seeming to predominate in excessive bilious temperament. It would seem as if acid secretions controlled the color, but the spot occurring near the surface would be discolored by exposure to light and air.

Dr. L. D. Sells.

Question 219. *There is a dentist, located in our town, who devotes his time to running other dentists down and bragging about himself. He is a poor workman, but does not hesitate to remove perfect fillings placed in teeth by others and replace them with his own, while abusing his opponents.*

Abuse is a sign of weakness; it is like using blank cartridges that produce a noise with little effect.

If a man has this weakness the world will find it out. In harping on the faults of others we often expose our own.

The idea of trying to be a gentleman when others treat us in an ungentlemanly manner is often difficult but necessary. We are too often inclined to punch out an eye in place of exercising personal forbearance, but the general public observes us with telescopes of experience that often magnify our good deeds, while the little end is turned on our enemies.

The world is full of cackling hens that are often poor layers; for a time they disturb the rest of the flock, but soon their cackling has about as much effect as a seed-tick on a Sunday pair of pants.

Your neighbor will break the rounds of his ladder before he reaches the top if you do not strengthen it by weakening your own.

Question 220. *Are bee stings a cure for rheumatism, and if so, would they not be useful in some forms of toothache?*

[We have read that bee stings are a sure cure for some forms of rheumatism. We have had no experience in that line, but one of our neighbors put fifteen bees in a box, pressed them against his leg and the whole fifteen put in their treatment at once. He had not walked without crutches for some time, but after treatment he moved around very freely, never thought about his crutches, made many Bible quotations and had much to say about a promised land spelled with four letters. The minister who had recommended the treatment, witnessed "the revival," and pronounced it a success. Just which part of the proceeding he referred to we are unable to state. If you should ever apply the bee sting treatment, for toothache, we advise you to have two doors to your office or be prepared to kill your patient at once, in self-defense.]

The Southern field hands who live on pork and hominy, coarse food, the corn very indifferently ground, have almost universally good teeth, while the same race living there as house-servants, eating the same food as the whites, have carious teeth; that is a well-known fact.

W. F. Litch.

ITEMS.

Dr. C. R. Yearick, Detroit, Mich., says tincture of gum benzoin is his best remedy for dental hemorrhage. He uses it with tannin. First prepare a pledget of cotton, dip it into tincture of gum benzoin, and then into tannin. Place it in the socket from which the tooth has been extracted, and you will have no return of the hemorrhage. It is not poisonous, and you may use it also for other hemorrhages on your hand or elsewhere.

* * *

On page 618 of the October ITEMS I see nitrate of silver recommended for the removal of "green tartar." Is it possible that this is not a mistake? Of course, I've not tried it, and don't expect to; it is incredible. If a similie were needed, I should say it might be like erasing a pencil mark with ink.

By the way, green stain is not tartar. *D. W. Barker.*

[The insertion of the item referred to was a mistake.—ED.]

* * *

The appearance of the office and of the dentist himself has much to do with his success. This cannot be too strongly impressed on our minds. A great many of the dentists who are practicing to-day are better fit for a blacksmith shop, or some other place, as far as their personal appearance is concerned. We should pay more attention to the manner in which we keep ourselves, cleanliness of person, and cleanliness of the office and its surroundings.

Ira B. Crissman.

* * *

TO DESTROY EXPOSED TOOTH PULP.—If you cannot get direct application in the cavity, leave it in forty-eight hours. This will destroy life to the extent that the cotton saturated with carbolic acid and then dipped in the powder, can be directly applied.

R.—Morphin..... gr. v.
Arsenic gr. x.
Chromic acid..... gr. i.

C. L. Furman, Brooklyn, N. Y.

* * *

Little children come to us for treatment, and, of course, a great many of them are frightened. I have seen cases where the sixth year molar was extracted and the child would remember it for years afterward. Some of them exhibit as much fear as if they were going to be dragged to the scaffold. If we can avoid

giving them pain it will be of great service to them, because they will appreciate it in after-life; and it would not only be a service to them, but also to us. I do not think it is a good plan to extract teeth for children that will cause much pain without administering some sort of anesthetic. Unless this is done, a dread of the dental office may be the result that will last for years—perhaps a lifetime.

A. H. McCandless.

* * *

Some dentists consume a patient's time speaking of a lot of things that are distasteful to him. If a dentist is going to gossip with his patient, he ought to do so after his professional engagement ends. The busy man expects to be attended to as soon as possible, and if there is a desire to discuss politics, the tariff, or the income tax, that may be done after the operation is over. It is not just for the dentist to discuss such matters with the patient during his office hours; but it is the duty of the dentist to hasten the operation as much as possible, in order that the time of the individual may be saved as well as his own.

T. W. Brophy.

* * *

I do not wish you to think that I use nothing but hot water, but find that I have left that impression. I am opposed to drilling in pulp canals, having gone through several times. I am not so expert as to know exactly where the crook comes. I open the mouth of the canal, though. Sulfuric acid does that nicely. I pump in chloro-percha, and I believe that I have as good success as those who use amalgam, or bees-wax, or plaster of Paris, or lead points. I know the theory that the end of the lead points are encysted and all that, and used to use them, but am more successful with chloro-percha.

J. P. Gray.

* * *

THE STOMACH.—It is not long ago when our knowledge of the gastric functions had the same limitations as little Johnnie's composition on the stomach: "De stomik is a holler organ like a foot-ball; it is a organ but it don't make music like a reglar organ nor does it look like one but more as a scotch bag-pipe. When we eat den wat we swaller goes in de stomik and from dere in de blud but wat we drink goes to de hed. De stomik lies above de belt and it is de place where dey hits in a prisefite. Some people can stumik a great deal but gurls as a roole have a week stomik that is why gurls never can be prisefiters. De stomik has 4 coats and that is more as I have got. when we get a pane in de stomik we call it stomikake and gingertee is good for it. That settels the stomik."

Pacific Druggist and Physician.

Another cause of the failure of the young operator may be that he has been confining himself too closely to his office, and has neither associated with his fellow practitioners in their society work nor read the instructive part of the journals. When these two things are omitted from a man's professional life his growth is sure to be dwarfed, and he is an extraordinary individual who can attain even average success if he neglects to reap the advantages gained from such helps as dental societies and journals. We know of nothing that could compensate for these with a dentist.

J. N. Crouse.

* * *

SUBSCRIBER.—The following is recommended for cementing glass or porcelain or other retainers of acid :

Asbestos.....	2 parts.
Barium sulfate.....	3 "
Sodium silicate (liq.).....	2 "

Acid proof cement for hot acids :

Powdered asbestos.....	1 part.
Fine sand.....	1 "
Sodium silicate (liq.).....	2 parts.

The above requires a few hours to set. If wanted for immediate use, use potassium silicate instead of sodium silicate.

* * *

Some seem to think there is but one way to advertise, and that is by heralding outright your superior skill, etc. There are better ways of gaining the confidence of the public. If you are a skilful dentist make the people find it out and believe it, not by shouting it in so many words from the housetops or newspapers, but by quietly and modestly gaining the confidence of the people by honest, intelligent advice, by good work and by a true professional bearing toward the world.

J. E. Davis.

* * *

COAL OIL IN THE LABORATORY.—There is a little wrinkle that I have made use of for years, and that is the substitution of coal oil for other oils in the laboratory. Used freely on the oil-stone, it keeps the latter fresh and clean, and there is left on it no film of steel covering the surface of the stone and lessening its effectiveness. Used on lathes, it removes all those gummy collections of old lubricants, and cleans journals and all other surfaces quite as well or better than does lye. It will remove many of the discoloring accumulations from the surfaces of fine wood-work. Use it to soak old instruments in, to remove rust, etc. It has a dozen uses.

H. H. B., in Cosmos.

The reason we see so many failures of amalgam fillings is, that we put in so many more of that material than of all others put together. The percentage of failures with it is not greater than with other materials, and not as great as with gold.

I recently had to remove an amalgam filling, the side of the tooth having broken off, and found red gutta-percha in the cavity. The patient said that the filling had been in twenty years. It was a good filling, and had to be removed only because she had broken the wall of the cavity.

Dr. Pearson.

* * *

In reply to F. A. Reisacher, in September ITEMS, "Aluminum Crown Decomposing in the Mouth," I think, probably, he has filled the cusps of his crown with amalgam, and the aluminum gradually wearing through has allowed the saliva to penetrate, thus setting up an electrical action. I have seen a crown entirely decomposed in one day, presumably from this cause (there was a hole in it when inserted); this crown also had a fresh amalgam filling proximal to it, which probably assisted in the decomposition.

Chas. W. Lennon.

* * *

It is difficult for a boy—almost impossible—to get the chance to learn a trade. The unions fix the number of apprentices. Every citizen not selfishly interested rejoices when some new manual training school is established. Hence Mr. Hackley, President of the Board of Education, of Muskegon, Mich., who gives \$135,000, and \$5,000 annually while he lives, to construct and support such a school, and promises to endow it at or before his death with \$100,000, to provide instructors for it, performs a deed which has a direct relation to the prosperity of his city, State and country.

Christian Advocate.

* * *

The great success of the clinic conducted by the Alumni Association of the Chicago College of Dental Surgery at its last January meeting, held in the college at Chicago, has determined the Association to repeat the clinical feature, but considerably enlarged, at the coming January meeting; making, however, a two days' session instead of one, and adding social features to consume a portion of the time. Those attending last year seemed to appreciate this part of the program.

The spacious rooms and up-to-date equipments of the college make it an ideal place to conduct clinics of any kind. They are arranged to be satisfactory and instructive not to a few alone, but to all in attendance. Extended notice will be given later.

R. B. Tuller.

EDITORIAL.

THE DIFFICULTIES OF HYPOCRISY.

Do we realize that the spirit we are of, the very passions we indulge, are imperceptibly communicated to those about us?—that our very thoughts are breathed out on our associates? We may not be so much the master of our situation as to imbue them with what we are, but they will irresistibly feel it as a blessing or a curse—as a force, soothing, winning and agreeable, or repellant, disagreeable and antagonizing. In spite of ourselves we carry an atmosphere with us giving character to our home, our office and our social relations. It is an unconscious influence made up of what we are.

We may not be able to explain it, and yet the very presence of one person seems to bring sunshine and cheer, the other a cloud; one comes as a garden of roses, the other with the odor of offensiveness.

And it is not so much the appearance, the manner, or even the speech which tell character. These may be plain, awkward and stammering, and yet the influence soothing. Our company may be handsome, polite and brilliant, and yet repulsive. We may reprove ourselves for our whims, our caprice, and call it nonsense; yet an unseen, unexplainable, unconscious influence is there, and we feel that one is our friend and the other is—well, we hardly know what, but in spite of ourselves we form a dislike or a friendship, and can't help it.

The fact is, it is harder to act the hypocrite than we imagine. What we are will show itself somehow. Though for a time it may be hidden, even from ourselves, it will crop out, and reveal something of our character, which long habits and prevailing thoughts and choice of doing has matured.

It is well, therefore, for us to weigh well the tendencies of our habits while they are in their incipency, to remember that "as a man thinketh so is he," and that even our imagination—our image making—gives character to our life. If our thoughts and feelings,

our passions and motives are normal and healthy, there will be in internal harmony and sweetness and good will, which will make our very presence a benediction. But if there is a war of elements within—the prevalence of evil passions “throwing up mire and dirt”—how can it be hidden?

A NEW ANESTHETIC.

An important communication is made by Prof. Theophilus Parvin before the members of the County Medical Society in relation to a new method of painless operations. The Professor had witnessed last summer, in Europe, surgical operations of a grave nature, performed under the use of a weak solution of cocain and morphin injected around the point of operation.

Dr. Schleich is the man who first experimented with the particular method described, and has performed many serious operations, such as amputation of limbs, removal of tumors and abdominal incisions without causing pain, though the person operated on remains conscious all through the proceedings.

The *modus operandi* is as follows: The part is well cleaned according to the usual methods, then the surface of the skin is rendered insensible to the pain of a needle by a spray of ethyl chlorid, and with a hypodermic syringe a number of injections are made in the deeper structures of a solution consisting of 2 parts of common salt, 1000 parts of water, $\frac{1}{4}$ of a part of morphia muriate and 1 part of cocain.

The tissues are thus infiltrated with the solution, and they become insensible to pain, this insensibility lasting 15 minutes or more.

Professor Parvin believed that at least 50 per cent of the operations now performed under ether or chloroform could be carried out with the use of this local anesthetic, which is comparatively harmless and with no bad after effects.

To demonstrate the method of application, and at the same time prove the truth of his assertions, Professor Parvin proceeded to bare his arm, and astonished the audience by stating

that he proposed to have an incision an inch long made into his own flesh and stitched up. An assistant accordingly applied the anesthetic to the Professor's arm, and with a scalpel, cut the flesh without causing the least change of expression in his face, and then stitched the wound.

The paper was discussed by prominent surgeons present, some of whom had tried the method and found it as described. General anesthesia, however, they believed, would still be necessary in the great majority of operations, since unconsciousness was desirable for other reasons than the mere one of producing insensibility to pain. Patients are often terrified by the sight of the operation or the thought of it. Accidents, too, might prolong the time of operation, or unforeseen complications might arise which would require deeper incisions, passing beyond the field of insensibility.

It was the opinion of some that the anesthesia was the result of pressure on the nerve endings by the fluid introduced, and therefore mechanical in its nature.

Cocain has long been known as a powerful local anesthetic, but poisoning from its use has been reported, and therefore it is not without danger.

Though the surgeons present expressed themselves willing to give the method a trial, they were not so sanguine as Professor Parvin, who, in closing the discussion, reiterated the statement he made in his paper, that it would not be long before the bulk of surgical operations, now performed under ether, would be carried on by the use of local anesthesia.

GOOD INSTRUMENTS.

There is nothing like good sharp instruments. They hurt the patient less and are a great comfort to the dentist.

I was once examining the instruments of a Brooklyn dentist of rather extensive reputation: "Why," said I, "how can you get along with such instruments? I should send these burs to the dogs and get new ones; and as for these excavators, do you

ever sharpen them? Excuse me, but if I should judge you by your tools, I should rate you as a third-class dentist."

"The greater the skill a dentist has," he replied, "the less he depends on his instruments. When I was a novice, I had three times as many instruments as I have now, and of greater variety, and much more costly. Now I can use anything."

Here, thought I, is egotism run mad. It cannot be that he does good work. What can give him his reputation? By inquiry I found this was his fourth office in twelve years. Since then he has had two more. He is rather a brilliant, magnetic fellow in society and in his office, *but he does not wear.*

The best of dentists can do their best work only by using the best instruments, and these kept in good condition. Even then he must use his best skill every time. There is no excuse for poor instruments, or poor attention to business. When we are above doing our best, with the best adjuncts within reach, we may as well voluntarily retire. If we do not, we shall be retired involuntarily.

KEEP UP.

What would have been considered skilful work twenty years ago would hardly pass muster now, and offices that were then thought respectable will not do now if we would be considered first-class. Dentists are expected to know more, look better, and do better work. And if there is one who does not keep up, he is sure to be discarded. Assumption and advertising and mere appearances will not save him. Those who come to us now know too much to be easily deceived, especially those we most desire as patients.

And our knowledge and skill must not be confined to ordinary work. This must be done well, but extraordinary work and knowledge is more and more in demand. What any dentist can do is expected of every dentist, and we must do it intelligently and skilfully.

Exorbitant prices will no longer shield the ignorant or support the skilful. When there were but few who could do good work, and successfully treat difficult cases, and could hold a pall of mystery over certain operations, exorbitant fees from these were possible. But now mystery is leaving our dictionary, and skill to do everything pertaining to the profession is becoming the profession of every dentist who has the ambition to keep up. It is only the ignorant laggard now who seeks to gain patronage by small fees, and it is only the assumptuous, egotistical charlatan that seeks by exorbitant fees to hold the ignorant wealthy. First-rate workmen are found in every city and in many country towns, and those who are not are being weeded out. We are fast becoming a profession in knowledge and deeds as well as in name, so that no dentist can hold a first-class position long who cannot do first-class work, and first-class work is made to mean anything that is in the pervue of the dentist. By this gradual change fabulous prices are seldom obtainable, and the fees of all round good dentists (who are getting to be the rank and file of the profession) are able to maintain, not extravagant, but a generous professional standard.

But let no one take encouragement from this that does not keep up with the profession. Even small fees will not long coax the patronage of the intelligent, and the rabble are not desirable. Every year charlatans are less able to maintain themselves among us, because there is less ignorance among patrons. We must keep up by doing good work, or step out of the ranks.

FIND YOUR PLACE AND FILL IT.

Do not be discouraged at a little floundering and a few blunders and failures; and do not be in great haste to be settled. Yet press on to your life work with faith, courage and boldness. Make no tarrying till you find it, and then stick to it.

A little time and money, many rebuffs and knockdowns, and disappointments and trials, will prove good discipline. But they must not dishearten you. You can not easily find out what you are made for, nor easily prepare yourself for your place. Much

of your preparation must be made in ignorance of final results. But by and by, if you are faithful to your destiny, your experiences will bring you success.

We Methodists think much of telling our experience, and though I have not a Methodist audience, I am "impressed" to tell my experience. There is nothing remarkable in it, except, perhaps, to show how even a blunderer and blockhead can do something, though he has to make many shifts to find his place.

When a lad, I was my father's clerk, and aspired to be a merchant. My father dissuaded me, and seeing in me some genius for mechanics, sent me to a wagon maker. I did not like it, and in six months my mother sent me to be a furniture maker. I was glad when he was burned out, and I could return home. Then I entered on a regular academic course of study, and followed that with a theological course, and entered the ministry. In three years my voice gave out, as had my father's, and my elder brothers' before me. Then I studied medicine, but in three years after graduating its strain and irregularities so told on my physical and nervous system that I was obliged to give that up. Then after a course of study in dentistry I entered this profession, where I have done most of my life work, pleasantly and profitably, bringing up, educating, and honorably settling in life seven children.

Some will say, "What a pity to have wasted so much time before knowing what you were fitted for."

But I have no regrets. My clerkship made me a gentleman; my mechanical experience gave me muscle, the use of tools, and health, which I had never before enjoyed, and my study of three professions tended to give me breadth of view, strength of thought, and wholeness of character. I have been poor and I have been rich, I have been weak and I have been strong. I have been a failure, and I have been somewhat a success, and through all and in all I have attained some skill, and some learning, and some standing in society, that has given me an increasing income from my early manhood up to this time. I am looking toward life's calm, which some call, and which is to some, old age. But I have, in the closing of my sixties, more endurance for my work, more enthusiasm in what I do, and more mental strength to do it easily, than

I had in my forties or my twenties Does this appear boasting? Then let me confirm my statement by saying that for the last twenty years my day's work has been from 5 A. M. to 10 P. M., and without a fret or a compulsion, without hurry or worry, and few days of bad weather.

I had seven good sisters, and I owe much that is good in me to my sisters and my mother. In the latter part of my teens I said to my oldest sister: "I am discouraged, because I have failed in so many things" She wisely replied: "Tommy, you are learning good lessons from all these failures. It is true, you are now floundering about, but by these very struggles and wanderings you are preparing for something you cannot see. When you finally find your place you will stick to it, and have the more discipline from your various experience. All fish live in the water, but each kind has its peculiar habitat; and when out of it, none are easy till they find it. You should not be discouraged, only diligently seek and prepare yourself by study and industry for what Providence is preparing for you."

It proved a good lesson. When I did find my place, I appreciated it and stuck to it.

Therefore I say to all my young friends: Keep on trying to find where you belong. As soon as you can, fix on your life's business; but if you cannot yet see it, continue to make the foundation for it—whatever it may prove to be—as broad and deep as possible. Do not mind present profit so much as present experience, which will aid you by and by. When you are prepared for your sphere, your sphere will gradually loom up before you; perhaps it will appear when you least expect it, and at a time when you are almost despairing of finding it.

God knows, and He is gradually giving you aspirations and inspirations and longings, and preparation for it. Hazy and indefinite it may be to you now; but wait! And while waiting work—work with head and heart and hands, with faith and royal character.

Therefore, in selecting an employment and a place to pursue it, we would have you ask yourself:

First.—What would I make my life work?

Second.—Do I like it?

Third.—Have I any evidence of being adapted to it?

Fourth.—Can I make myself and the world better and happier by engaging in it?

We have each an instinct which will in part answer these questions. Added to this we have an intellect, by which we can test and follow out the suggestions and leadings of this instinct. Then if we have the push to get in and establish ourselves where we evidently belong we shall succeed.

Do not be too long floundering in shallow water. You may get hurt. Learn to swim as soon as possible, and venture out. When you have faith and a little experience it is easier to swim in deep water than in shallow. Feel your way with a courage and a boldness and independence that nothing can overcome—and you will get there.

How fast the years roll round—December again, though yesterday it was January. Swifter and swifter the years fly by as we approach old age. Approach it; ah, that is all.

A little time since, as we really thought we saw it, a dear one said to us: "Let me walk with you, it will do us both good." Stop; let me see. Did she say this, or did I say it? I do believe it was the latter, and oh, how it has brought back my youth!

Reader, have you a wife, prize and nourish her. Have you not one, be more desirous to get one—and a good one, if you are living worthy of one—than of any other blessing. It is the most helpful, healthful and heavenly gift of God to man.

But we were speaking of the waning years. Well, they will go by; and faster and faster. But if each is followed by a better one, then we can pass on without regret, yes, with a bounding heart. So may it be to us all, till the last one shall be a step into glory.

But wait. Let us not part company even here. Will you not keep us company in our journalistic journey? Please do not leave us, but rather persuade your neighbor to step into the ranks.

HINTS.

While we are here, let us think earnestly of the few brief chances remaining to us; they grow fewer every hour.

* * *

In stamping the cusps of shell crowns, use a lump of wax with cotton over it, instead of shot.

* * *

MOSQUITO BITES.—A correspondent writes to the *New York Tribune* that an effectual and speedy cure for mosquito bites is aristol. The tip of the finger is moistened with water and a little of the powder taken and rubbed on the inflamed spot.

* * *

In devitalization of highly inflamed pulp, Professor Truman says, I have most satisfactory results from the use of iodoform in small quantities in connection with arsenic. So far as tried, there has not been a particle of pain in acute pulpitis.

* * *

Not only the structure but the shapes of the teeth are the result of the physical force exercised in the mastication of food; not only the shapes of the teeth, but the shapes, also, of the glenoid cavities and the condyles, are determined by the movements of the jaw, and this influence is in proportion to the density or resistance offered by the food taken for the nourishment of the body.

* * *

ED. ITEMS:—I am interested in the unique dental fulcrum advertised in August ITEMS.

Will some one who has had experience with the above kindly state in ITEMS if it is as represented by the advertiser, *i. e.*, "extracting any tooth instantly, with surprising ease to both patient and operator."

Subscriber.

* * *

A CEMENT FILLING MATERIAL.—Dr. Seikel, of San Francisco, makes a cement as follows: Chemically pure zinc is made with a portion of oxid of zinc, and oxydized by keeping it at a white heat for from six to ten hours; then add phosfate of aluminum till the mixture is of the consistence of putty. Bake till it is fully fused and looks like porcelain; then pulverize finely. This powder is to be used with a fluid composed of aluminum added to chemically pure glacial phosforic acid and boiled down to the consistency of syrup.

TO MEND BROKEN PLASTER CASTS.—Paint the broken surfaces over two or three times with very thick shellac varnish, and at each application burn out the alcohol over a flame. When the shellac is sufficiently soft, press the parts together, and hold in position till cool. It will be as strong as it was before broken.

* * *

ROOT-CANAL FILLING.—For doubtful root-canals Dr. Ottolengui prepares a gutta-percha cone by dipping waxed floss silk in chloro-percha and laying aside for chloroform to evaporate. Then fills canal with chloro-percha and carries silk gutta-percha cone to place, leaving projecting end in cavity. This is easily removed if trouble ensues.

* * *

Some years ago at Ann Arbor, during a quiz by Professor Frothingham, the professor asked a young man, "How much bichlorid of mercury would you give to a patient under the conditions I have stated?" The student replied, "Thirty-two grains." The professor never said a word, and went on with the quiz. Pretty soon the young man said, "Professor, I made a mistake; I meant the thirty-second of a grain." "Never mind," said Dr. Frothingham; "your patient is dead by this time."

* * *

The twelfth annual meeting of the Minnesota State Dental Association was held in St. Paul, September 11th, 12th, and 13th, at the Ryan Block. It was a very successful meeting.

The following are the officers for the coming year:

Dr. E. B. Weeks, of Leitchfield, President; Dr. W. D. James, of Tracey, Vice-President; Dr. H. L. Cruttenden, of Northfield, Secretary; Dr. H. M. Reid, of Minneapolis, Treasurer; Dr. Claude Kremer, Chairman of the Executive Committee; Dr. O. A. Weiss, Master of Clinics.

The next annual meeting will be held in Winona.

H. L. Cruttenden, Secretary.

* * *

The *American Journal of Photography* truthfully says the importance of steady and useful employment, especially by the young, can hardly be over-estimated. The unemployed are generally the most unhappy and the most liable to wrong doing. The person that is busy will have less time or inclination to find fault with others or to engage in disreputable affairs. Keep employed. Do something useful. Work for small wages if you cannot get more. Or work without pay rather than be idle. Such a person will not long lack employment, neither will he work long without fair compensation.

The germ theory in disease is as old as medicine itself, for the ancients had a belief that invisible organisms came down from the stars and filled the atmosphere about the earth, but Pasteur was the first to formulate and make clear a scientific view of this subject. Through his investigations and labors France was saved from great losses to the wine industry. It was Pasteur who made known the true character of hydrophobia, and by his system of inoculation prevented many persons who had been bitten by mad dogs from taking that terrible disease. He gave, in fact, an enormous impulse to the study and practice of inoculation generally, and from what science is now doing in this direction it is not too much to expect that at some time in the future such diseases as cholera, diphtheria and typhoid fever may be almost stamped out.

* * *

If in a healthy condition, we may swallow cholera germs with impunity. A very brilliant leading editorial in the *Medical News*, by the accomplished Dr. Gould, wound up with this final statement, that after all we find our best preservation against poisonous organisms in ourselves; and that perhaps there is no environment more fatal to disease-germs than a good healthy stomach. That is why so many escape contagion, because the environment is unfavorable; they are healthy, and hence organisms of disease cannot go on developing and carrying out their vicious circle of reproduction.

* * *

Keep your accounts with patients as definite as possible. Always take time to record intelligently and in detail your work as soon as it is done, and while being done, if it is to extend beyond a single sitting. Leave nothing to memory. Let the book tell the whole story. This habit of keeping accounts accurately will gradually broaden into a habit of business-like promptness and particularity in everything. It will avert many disputes, remove many doubts, unravel many perplexities, and take from our life that looseness, indefiniteness and irregularity that is the bane of many lives. If patients ask the probable cost of work to be done, be ready from your chart book to give it. It will beget confidence, and they will be the more intelligently prepared to meet the final cost. This definite and detailed method of recording your work is also often of much worth a long time after work has been done, when patients come in perfectly confident that some of your work has failed. Of course, they bring the chart you gave them; if not, you have it in your chart book. All of us are liable to do imperfect work, but none of us like to make good the imperfect work of another dentist. What a satisfaction to be able to show from our chart the fillings we have inserted.

FOR OUR PATIENTS.

This above all ; to thine own self be true,
And it must follow, as the night the day,
You canst not then be false to any man.

It is the secret sympathy,
The silver link, the silken tie,
Which heart to heart and mind to mind,
In body and soul can bind.

Some are never strangers,
But, as soon as seen, the soul, as if by instinct,
Springs toward them with resistless force and owns
Congenial sympathy.

SAVING AN OLD TOOTH.

"A little nonsense now and then
Is relished by the wisest men."

The doctor stretched my mouth open till he could see my heart beat. Then he said cautiously: "I think we can save that tooth." Running a long, inquisitive wire in the tooth to the depth of about sixteen inches, he stirred up something known as a "nerve." In response to my fervent yell he asked, "Does that hurt?" I wiped the tears out of my eyes and said simply, "Yes." Then he got some Zahn-Artzt crowbars and pried here and there at the tooth, occasionally waking up that cussed nerve which had been growling ever since at its unceremonious handling. Then he said: "We will have to kill the nerve first, and fill the tooth afterward."

"How long will that take?" I asked, anxiously.

"Oh, you can't tell about that," he replied; "you can have it pulled if you prefer it," he added. I went to the glass and smiled at myself. It was as I feared. If that tooth was yanked out, my smile was ruined.

There is nothing so unpleasant as a fore-shortened smile. The absence of the tooth at either end gives it a wolfish character. A tooth out of the center of a smile simply wrecks it. No, I could not afford to have that tooth pulled.

Stimulated then by the strongest ingredient in the male character, vanity, I resolved to take my medicine, and so the pact was made.

I began to make regular trips to his office, and soon became

inured to scenes that at first chilled the blood in my veins and caused the soft and significant goose-pimples to start from my flesh as a trumpet-call. People with a strained expression of countenance met there, and the doctor's little room, which I had mentally named the chamber of horrors, re-echoed with groans, yells and imprecations. And yet he was a gentle-hearted man. He did not revel in those pandemoniums of whoops and sobs, but the stern necessities of dentistry compelled them.

His instruments of torture, called by courtesy dental instruments, were many and varied. He was very skilful in his profession, and when he took a job he did it in first-class style. The dental tools are simply copies in miniature of articles used in the Spanish Inquisition and on refractory prisoners in the Tower of London. They are monkey-wrenches, rasps, files, gouges, cleavers, picks, squeezers, drills, daggers, little crowbars, punches, chisels, pincers, and long wire feelers with prehensil, palpitating tips, that can reach down through the roots of a throbbing tooth and fish up a yell from your inner consciousness. When a painstaking dentist cannot hurt you with the cold steel, he lights a small alcohol lamp; and heats one of his little spades red-hot, and hovers over you with an expectant smile.

Then he deftly inserts this in your mouth, and when you give a yell, he says, "Does that hurt?"

Well, the first thing to do was to kill the nerve. The nerve is a long, starved angle-worm growth that starts in the tooth somewhere and grows down and up with three distinct tentacles or feelers. One of these connects with your brain, one with your heart, and the other with your soul. Every time the nerve is touched an electric shock goes to each of these terminal points, and you feel as if you had been shot, stabbed and burned with a hot iron at the same time.

The doctor toyed with this nerve of mine for some weeks. Whenever the combination was made I used to kick out with one foot and cry, "Ow!" or grab his hand and say appealingly, "Oh, don't." Then he would say: "We won't hurt you."

Sometimes he would lull me into a fancied security and I would be counting three hundred, or saying to myself, "Even this will pass away," when all of a sudden four thousand rattlesnakes would dart their venom into me simultaneously, a hundred mules would kick me, a score of bumble-bees would sock their stingers into me and the world would come to an end. Then I would know that he had stepped on the nerve with the "teaser." The "teaser" is the boss "feeler," being fine as a horse-hair and of the most undoubted yell-producing power.

After a long while the nerve capitulated. I had lost eleven pounds in the process, but a great gain had been made. The tooth was now as tender as a mush-and-milk poultice, and even to tickle it with an ostrich tip would produce exquisite agony. He used to soothe it from time to time with various lotions, and finally he began to quarry out the dead bone a little. This was gruesome work, for there were tender places all over the tooth, as thick as spots on a leopard, and every time he jammed a chisel into one of them I almost fainted. I was kept in a continuous cold sweat for weeks thinking about it before I went, going through with it while I was at the office, and remembering it after I had left.

After he had amused himself by digging and blasting out a lot of little galleries in the upper part of the tooth, he began to "treat" the root apertures.

This is a most ingenious and refined cruelty, and by some dentists is preferred even to nerve-killing. The process is to first feel around with the "teaser" on the sensitive roots; next to put a little cotton dipped in carbolic or nitric acid, creasote or turpentine around the "teaser," and stick it away down into the same place. This hurts powerfully. It cleanses the roots of impurities, though. A lighted match would be less painful, but the aperture is not large enough to admit one. After this, some cotton filling is stuffed in and you are told to come back in three days. That night you wake at twelve o'clock with "your soul in arms and eager for the fray." You dig out all the filling and pace up and down the room, saying at intervals, "Oh, gosh! why didn't I have it pulled?"

Then you go back and the treatment is renewed. The doctor varied the upper filling by putting in hard rubber filling after awhile. This is put in soft and hot, and hardens when it gets cold.

When you wake up at night with terrible throbbing, you can't get it out. A red-hot hairpin may get some of it out, but you are liable to glance off and get your gums into the sere and yellow. So you generally recoup by taking the Lord's name, as some say, in vain, but it soothes you, anyway.

When the roots are ready to fill, a gladsome joy pervades your entire system. The birds sing, the skies are bright, roses bloom, men and women are better, the whole world has changed in the twinkling of an eye. The day the roots are filled you go home and kiss your mother, and eat your supper on both sides of your mouth. For, mark you, when a tooth is being filled, the jaw it adorns is practically side tracked till the crucifixion is over.

The last scene in the drama was when the doctor put in the top filling. The roots had already been plugged with a red putty

which had hardened into a regular tooth cement. I lay back in the chair and the tap, tap of the hammer and punch sounded as melodious as Joaquin Miller's line of "A woodpecker pounded a pine top shell."

I was wrapped in a dream of delicious joy. Not like some of my acquaintances would I be forced to launch myself into society with a fragmentary misfit smile. No, indeed. And when the whole thing was through, I shook the Doc's hand and he told me that he had never meant all along to so kill me by inches, but that dentistry was a fine art.

Ernst McGaffey, Chicago Herald.

THE JUMBO OF GAS WELLS.

The Big Moses gas well, on the Spencer farm, on Indian creek, Tyler county, West Virginia, struck by lightning Friday afternoon, extinguished itself the same evening, after consuming the derrick and all the combustible matter within reach. The pressure was so great that it simply blew itself out, after furnishing the natives of that county with one of the grandest sights ever witnessed. The flames at no time descended nearer than forty feet of the hole, and the swaying to and fro of the great mysterious invisibly supported flambeau, hundreds of feet high, to which was added a deafening roar, made a spectacle awe-inspiring and terrible.

Nothing had ever before been struck that approached the Big Moses in magnitude. The pent-up pressure, when furnished an avenue of escape through an eight and one-quarter inch hole, for three months defied every effort to bring it under control. The earth trembled within one thousand feet of the well, and the roaring monster could be distinctly heard for a distance of twelve miles. No accurate gage of this jumbo of all jumbos has ever been taken. At one time a partial test was made with an ordinary gage, and it showed a pressure of forty-four pounds from an eight and one-quarter inch opening. At another time, from a three-inch opening, it showed a pressure of six hundred pounds the first fifteen seconds. Then attempts at a complete test had to be abandoned.

When flowing through the casing its daily capacity was estimated by experts to be from eighty million to one hundred and twenty million cubic feet a day. It was struck in November of last year, and during six months of the time since then the valuable fluid went to waste. Taking the lowest estimate, eighty million feet a day, and compute its value at twenty-five cents per one thousand cubic feet, as charged by the city gas companies, for a period of six months, and the result presents an array of figures

too great for the comprehension of the human mind, when reduced to the "coin of the realm." It may sound ridiculous, but the selling value of this wasted gas, in Pittsburg, would be \$3,640,000. The Carnegie Gas Company's expert visited the well, and estimated its capacity to be great enough to supply fuel for the entire Homestead plant, if it were accessible. Another expert expressed the opinion that its output would be equal to the demands required to furnish the entire city of Pittsburg for domestic purposes.

The owners expended \$5,000 in shutting the well in, and three months after it broke through and forced its way up through the surface. A powerful pump was then set up near the wall, and for five days they pumped water in the monster with the hope that the gas pressure could be crowded back, and give them a chance to put in a packer; but their efforts proved futile, for the water was again forced to the surface from fissures that it made, and the result was dozens of geysers spurting up in the air. Some of them even made their appearance almost a half mile from the well.

Some idea of the noise that it makes may be had when it is stated that two persons standing side by side find it impossible to converse understandingly within a half mile of the well. The owners will not abandon all hope of shutting it in. They expect to begin work on it again this week.

Pittsburg Dispatch.

Distinct tides in the atmosphere, corresponding to those of the sea, and produced twice daily by lunar attraction, have been traced by M. Bouquet de la Grye in the barometric records of stations removed from powerful local disturbances. The recorded observations of Brest, St. Helena, Cape Horn, Batavia and Singapore give positive evidence of a regular ebb and flow according to the moon's position. The effect is slight but measurable, the greatest atmospheric tide at Brest being shown by a movement of a quarter of an inch in a water barometer. The tide seems to bear about the same ratio to the weight of the atmosphere that the sea tide bears to the depth of the ocean.

Power.

WONDERFUL STRENGTH OF THE BEETLE.—A noted entomologist, who has been writing on the wonderful feats of strength as exhibited in the beetle family, tells the following: "I selected a common black water beetle weighing 4.2 grains and found that he was able to carry a load of shot in a small bag, the whole weighing $8\frac{1}{4}$ ounces, or exactly 858 times the weight of the bug. If a man weighing 150 could carry as much accordingly, he could shoulder a 45-ton locomotive and then chain a train of cars together and take the whole lot across the country at a five-mile-an-hour gait."

